Access DB# 33643

# SEARCH REQUEST FORM

## Scientific and Technical Information Center

Requester's Full Name: Gailene R. Gabel Examiner #: 76197 Date: 1/17/01
Art Unit: 1641 Phone Number 305-0897 Serial Number: 09/403,655
Mail Box and Bldg/Room Location: 7B15 Results Format Preferred (circle): PAPER DISK E-MAIL
7E12

**If more than one search is submitted, please prioritize searches in order of need.**

**********

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Process for Isolating a Target Material by Biological Capture Detection Phase

Inventors (please provide full names): Elaissari, Abdelhamid; Durrafer, David; Pichot, Christian; Mallet, Francois; Novelli-Rousseau Armelle

Earliest Priority Filing Date: 4/16/97

***For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.**

Please search claims 1, 5, 6, 8, 11-13, 16-17, 19-20 & 22, especially structure in claim 7. formula

highlighted terms

Please limit search

NOT a sequence search

Thanks Gail.

**********

| STAFF USE ONLY | Type of Search | | Vendors and cost where applicable | |
|---|---|---|---|---|
| Searcher: JOHN DARLTUMAS | NA Sequence (#) | | STN | ✓ |
| Searcher Phone #: | AA Sequence (#) | | Dialog | |
| Searcher Location: | Structure (#) | | Questel/Orbit | |
| Date Searcher Picked Up: 1-26-01 | Bibliographic | ✓ | Dr.Link | |
| Date Completed: 1-26-01 | Litigation | | Lexis/Nexis | |
| Searcher Prep & Review Time: 40 | Fulltext | | Sequence Systems | |
| Clerical Prep Time: | Patent Family | | WWW/Internet | |
| Online Time: 70 | Other | | Other (specify) | |

PTO-1590 (1-2000)

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=> d his

     (FILE 'HOME' ENTERED AT 10:15:10 ON 26 JAN 2001)

     FILE 'HCAPLUS' ENTERED AT 10:15:22 ON 26 JAN 2001
L1            59 S ELAISSARI A?/AU
L2            13 S DURACHER D?/AU
L3           186 S PICHOT C?/AU
L4            63 S MALLET F?/AU
L5           772 S NOVELLI?/AU
L6             1 S L1 AND L2 AND L3 AND L4 AND L5
                 SELECT RN L6 1

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L7            17 S E1-17

     FILE 'HCAPLUS' ENTERED AT 10:16:42 ON 26 JAN 2001
L8             1 S L6 AND L7

=> d bib abs hitstr
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Inventor search

L8 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2001 ACS
AN 1998:716219 HCAPLUS
DN 129:313117
TI Method and immunoassay assembly for the detection of biological materials using a capture phase with immobilized reagent
IN **Elaissari, Abdelhamid; Duracher, David; Pichot, Christian; Mallet, Francois; Novelli-Rousseau, Armelle**
PA Bio Merieux, Fr.
SO PCT Int. Appl., 25 pp.
CODEN: PIXXD2
DT Patent
LA French
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | WO 9847000 | A2 | 19981022 | WO 1998-FR772 | 19980416 |
| | WO 9847000 | A3 | 19990211 | | |
| | W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| | RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG | | | | |
| | FR 2762394 | A1 | 19981023 | FR 1997-4923 | 19970416 |
| | FR 2762394 | B1 | 19990528 | | |
| | AU 9874362 | A1 | 19981111 | AU 1998-74362 | 19980416 |
| | EP 975968 | A2 | 20000202 | EP 1998-921550 | 19980416 |
| | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI | | | | |

PRAI FR 1997-4923 19970416
WO 1998-FR772 19980416

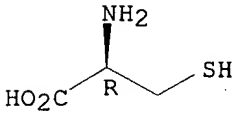
AB The invention concerns a method for isolating a target biol. material contained in a sample, consisting of the following steps: providing a capture phase, in microparticulate or linear form, consisting of at least a first particulate or linear polymer, with apparent hydrophile character and first complexing groups, the latter being bound by co-ordination to a first transition metal, which is itself bound to a first biol. entity capable of specifically recognizing the target biol. material; contacting said target biol. material with at least the capture phase; and detecting the capture phase-target biol. material complex, optionally with a detection phase, in microparticulate or linear form, and consisting of at least a second particulate or linear polymer, with apparent hydrophile character and second complexing groups, the latter being bound by co-ordination to a second transition metal, which is itself bound to a second biol. entity capable of specifically recognizing the target biol. material, and a marker. Markers are e.g. enzymes, fluorescent dyes, magnetic particles, antigens, heptanes, antibodies. Thus styrene-N-isopropylacrylamide copolymer was functionalized with 2-aminoethyl methacrylate; poly(N-isopropylacrylamide) was functionalized with maleic anhydride-methylvinylether copolymer and grafted to the amino-group contg. polymer. Zn2+ was bound to the complexation groups and

the recombinant protein RH24 with a histidine tag was immobilized to obtain the capturing phase.

IT **52-90-4**, L-Cysteine, properties **71-00-1**, L-Histidine, properties
RL: PRP (Properties)
(method and immunoassay assembly for detection of biol. materials using
a capture phase with immobilized reagent)

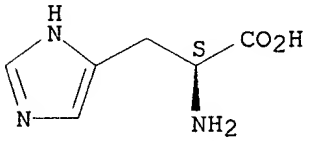
RN 52-90-4 HCAPLUS
CN L-Cysteine (9CI) (CA INDEX NAME)

Absolute stereochemistry.



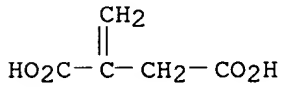
RN 71-00-1 HCAPLUS
CN L-Histidine (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



IT **97-65-4**, Itaconic acid, reactions **7439-92-1**, Lead, reactions **7439-95-4**, Magnesium, reactions **7439-96-5**, Manganese, reactions **7440-02-0**, Nickel, reactions **7440-05-3**, Palladium, reactions **7440-06-4**, Platinum, reactions **7440-48-4**, Cobalt, reactions **7440-50-8**, Copper, reactions **7440-57-5**, Gold, reactions **7440-66-6D**, Zinc, complex with graft polymer **7659-36-1D**, 2-Propenoic acid, 2-methyl-, 2-aminoethyl ester, reaction with styrene-N-isopropylacrylamide copolymer and grafted with maleic anhydride-methylvinylether copolymer functionalized poly(N-isopropylacrylamide)
RL: RCT (Reactant)
(method and immunoassay assembly for detection of biol. materials using
a capture phase with immobilized reagent)

RN 97-65-4 HCAPLUS
CN Butanedioic acid, methylene- (9CI) (CA INDEX NAME)



RN 7439-92-1 HCAPLUS
CN Lead (8CI, 9CI) (CA INDEX NAME)

Pb

RN 7439-95-4 HCAPLUS
CN Magnesium (8CI, 9CI) (CA INDEX NAME)

Mg

RN 7439-96-5 HCAPLUS
CN Manganese (8CI, 9CI) (CA INDEX NAME)

Mn

RN 7440-02-0 HCAPLUS
CN Nickel (8CI, 9CI) (CA INDEX NAME)

Ni

RN 7440-05-3 HCAPLUS
CN Palladium (8CI, 9CI) (CA INDEX NAME)

Pd

RN 7440-06-4 HCAPLUS
CN Platinum (8CI, 9CI) (CA INDEX NAME)

Pt

RN 7440-48-4 HCAPLUS
CN Cobalt (8CI, 9CI) (CA INDEX NAME)

Co

RN 7440-50-8 HCAPLUS
CN Copper (7CI, 8CI, 9CI) (CA INDEX NAME)

Cu

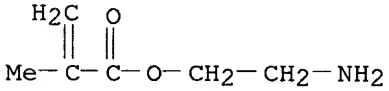
RN 7440-57-5 HCAPLUS
CN Gold (8CI, 9CI) (CA INDEX NAME)

Au

RN 7440-66-6 HCAPLUS
CN Zinc (7CI, 8CI, 9CI) (CA INDEX NAME)

Zn

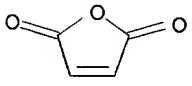
RN 7659-36-1 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-aminoethyl ester (9CI) (CA INDEX NAME)



IT **9011-16-9DP**, 2,5-Furandione, polymer with methoxyethene, reaction with poly(N-isopropylacrylamide) and graft polymer with styrene-N-isopropylacrylamide copolymer functionalized with 2-aminoethyl methacrylate **25189-55-3DP**, Poly(N-isopropylacrylamide), reaction with 2,5-furandione polymer with methoxyethene and graft polymer with styrene-N-isopropylacrylamide copolymer functionalized with 2-aminoethyl methacrylate **97381-57-2DP**, reaction with 2-Propenoic acid, 2-methyl-, 2-aminoethyl ester and grafted with poly(N-isopropylacrylamide) functionalized with 2,5-furandione polymer with methoxyethene
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(method and immunoassay assembly for detection of biol. materials using a capture phase with immobilized reagent)
RN 9011-16-9 HCAPLUS
CN 2,5-Furandione, polymer with methoxyethene (9CI) (CA INDEX NAME)

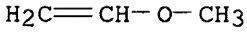
CM 1

CRN 108-31-6
CMF C4 H2 O3



CM 2

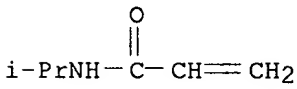
CRN 107-25-5
CMF C3 H6 O



RN 25189-55-3 HCAPLUS
CN 2-Propenamide, N-(1-methylethyl)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

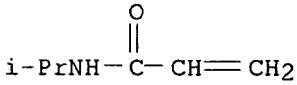
CRN 2210-25-5
CMF C6 H11 N O



RN 97381-57-2 HCAPLUS
CN 2-Propenamide, N-(1-methylethyl)-, polymer with ethenylbenzene (9CI) (CA INDEX NAME)

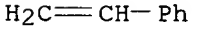
CM 1

CRN 2210-25-5
CMF C6 H11 N O



CM 2

CRN 100-42-5
CMF C8 H8



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     (FILE 'HOME' ENTERED AT 10:15:10 ON 26 JAN 2001)

     FILE 'HCAPLUS' ENTERED AT 10:15:22 ON 26 JAN 2001
L1           59 S ELAISSARI A?/AU
L2           13 S DURACHER D?/AU
L3          186 S PICHOT C?/AU
L4           63 S MALLET F?/AU
L5          772 S NOVELLI?/AU
L6            1 S L1 AND L2 AND L3 AND L4 AND L5
                SELECT RN L6 1

     FILE 'REGISTRY' ENTERED AT 10:16:28 ON 26 JAN 2001
L7           17 S E1-17

     FILE 'HCAPLUS' ENTERED AT 10:16:42 ON 26 JAN 2001
L8            1 S L6 AND L7
L9           54 S (DETN OR DETERMIN? OR ANALY? OR DETECTION)(4A)(SAMPLE OR
BIOL
L10        1464 S (DETN OR DETERMIN? OR ANALY? OR DETECTION) AND COMPLEX? AND
H
L11         157 S L10 AND (TRANSITION METAL OR ZINC OR ZN OR NICKEL OR NI OR
CO
L12         198 S L10 AND (COBALT OR CO OR IRON OR FE)
L13         104 S L10 AND (MAGNESIUM OR MG OR MANGANESE OR MN)
L14          93 S L10 AND (LEAD OR PB OR PALLADIUM OR PD)
L15          49 S L10 AND (PLATINUM OR PT OR GOLD OR AU)
L16         414 S L11-L15

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     FILE 'HCAPLUS' ENTERED AT 11:08:34 ON 26 JAN 2001
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L17          SEL L16 1- RN :    2595 TERMS
                SET SMARTSELECT OFF

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L18         2591 S L17
L19          242 S L18 AND PMS/CI

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L20          113 S (L11-L15) AND L19
                E DETER/CV
                E DETERMIN/CV
                E DETERMIN/IT
                E DETERMINATION/IT
L21       798794 S DETERMINATION/IT
L22           21 S L20 AND L21
L23           55 S L20 AND (ANALY? OR DETN OR DETECT?)/IT
L24           55 S L22 OR L23
L25           17 S L9 AND (L11-L15)
L26           13 S L25 NOT L24
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L27          36 S L9
L28           8 S L27 AND (TRANSITION METAL OR ZINC OR ZN OR NICKEL OR NI )
L29          10 S L27 AND ((COBALT OR CO OR IRON OR FE OR COPPER OR CU))
L30           5 S L27 AND  (MAGNESIUM OR MG OR MANGANESE OR MN)
L31           5 S L27 AND   (LEAD OR PB OR PALLADIUM OR PD)
L32           5 S L27 AND  (PLATINUM OR PT OR GOLD OR AU)
L33          18 S L28-L32
L34          12 S L33 AND (POLY? OR POLYMER?)
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L26 ANSWER 1 OF 13 HCAPLUS COPYRIGHT 2001 ACS
AN 2000:222269 HCAPLUS
DN 133:55391
TI Influence of the Denticity of Ligand Systems on the in Vitro and in Vivo Behavior of 99mTc(I)-Tricarbonyl **Complexes**: A Hint for the Future Functionalization of Biomolecules
AU Schibli, Roger; La Bella, Roberto; Alberto, Roger; Garcia-Garayoa, Elisa; Ortner, Kirstin; Abram, Ulrich; Schubiger, P. A.
CS Center for Radiopharmaceutical Science of the ETH Zuerich, Paul Scherrer Institute, Villigen, CH-5232, Switz.
SO Bioconjugate Chem. (2000), 11(3), 345-351
CODEN: BCCHES; ISSN: 1043-1802
PB American Chemical Society
DT Journal
LA English
AB Functionalization of biol. relevant mols. for the labeling with the novel fac-[99mTc(OH2)3(**CO**)3]+ precursor has gained considerable attention recently. Therefore, we tested seven different tridentate (histidine L1, iminodiacetic acid L2, N-2-picolylamineacetic acid L3, N,N-2-picolylaminediacetic acid L4) and bidentate (histamine L5, 2-picolinic acid L6, 2,4-dipicolinic acid L7) ligand systems, with the potential to be bifunctionalized and attached to a biomol. The ligands allowed mild radiolabeling conditions with fac-[99mTc(OH2)3(**CO**)3]+ (30 min, 75 .degree.C). The ligand concns. necessary to obtain yields of >95% of the corresponding organometallic **complexes** 1-7 ranged from 10-6 to 10-4 M. **Complexes** of the general formula "fac-[99mTcL(**CO**)3]" (L = tridentate ligand) and "fac-[99mTc(OH2)L'(**CO**)3]" (L' = bidentate ligand), resp., were produced. Challenge studies with cysteine and histidine revealed significant displacement of the ligands in **complexes** 5-7 but only little exchange with **complexes** 1-4 after 24 h at 37 .degree.C in **PBS** buffer. However, no decompn. to 99mTcO4- was obsd. under these conditions. All **complexes** showed a **hydrophilic** character (log Po/w values ranging from -2.12 to 0.32). Time-dependent FPLC **analyses** of compds. 1-7 incubated in human plasma at 37 .degree.C showed again no decompn. to 99mTcO4- after 24 h at 37 .degree.C. However, the **complexes** with bidentate ligands (5-7) became almost completely protein bound after 60 min, whereas the **complexes** with tridentate coordinated ligands (1-4) showed no reaction with serum proteins. The compds. were tested for their in vivo stability and the biodistribution characteristics in BALB/c mice. The **complexes** with tridentate coordinated ligand systems (1-4) revealed generally a good and fast clearance from all organs and tissues. On the other hand, the **complexes** with only bidentate coordinated ligands (5-7) showed a significantly higher retention of activity in the liver, the kidneys, and the blood pool. Detailed radiometric **analyses** of murine plasma **samples**, 30 min p.i. of **complex** fac-[99mTcL1(**CO**)3], 1, revealed almost no reaction of the radioactive **complex** with the plasma proteins. By contrast, in plasma samples of mice, which were injected with **complex** fac-[99mTc(OH2)L5(**CO**)3]+, 5, the entire radioactivity coeluded with the proteins. On the basis of these in vitro and in vivo expts., it appears that functionalization of biomols. with

tridentate-chelating ligand systems is preferable for the labeling with fac-[99mTc(OH2)3(CO)3]+, since this will presumably result in radioactive bioconjugates with better pharmacokinetic profiles.

RE.CNT 20
RE
(2) Alberto, R; J Am Chem Soc 1998, V120, P7987 HCAPLUS
(3) Alberto, R; J Am Chem Soc 1999, V121, P6076 HCAPLUS
(4) Alberto, R; Polyhedron 1996, V15, P1079 HCAPLUS
(5) Alberto, R; Transition Met Chem 1997, V22, P597 HCAPLUS
(7) Costello, C; J Nucl Med 1983, V24, P353 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L26 ANSWER 2 OF 13 HCAPLUS COPYRIGHT 2001 ACS
AN 1998:793662 HCAPLUS
DN 130:121082
TI Mean-field **analysis** of protein-protein interactions
AU Olson, Mark A.
CS Molecular Modeling Laboratory, and Department of Cell Biology and Biochemistry, USAMRIID, Frederick, MD, 21702-5011, USA
SO Biophys. Chem. (1998), 75(2), 115-128
CODEN: BICIAZ; ISSN: 0301-4622
PB Elsevier Science B.V.
DT Journal
LA English
AB Calcns. were performed on the D1.3-E5.2 antibody-antibody **complex** estg. the binding affinities of the wild-type and 16 alanine substitutions. **Analyzed** were structural models of the interfacial region contg. a **zinc** ion and crystallog. waters. A continuum approach was used to evaluate the electrostatic free energies and the hydrophobic effect was calcd. by employing a buried mol. surface area relationship. Ests. of the abs. binding affinity reproduced the exptl. value within the uncertainty of assessing entropic and strain energy contributions. The best correlation for mutants with exptl. data was achieved when the **hydrophilicity** of created cavities were considered, and yielded a correlation coeff. of 0.7 and an av. error of .+-.1.4 kcal/mol. Empirically fitting the free energy function produced a smaller error of .+-.1.0 kcal/mol. Depending on the elec. potential and electrostatic reorganization, scaling the 'protein dielec. const.' to .apprx.10 may improve the accuracy of continuum models for evaluating amino acid substitutions.
RE.CNT 32
RE
(2) Dall'Acqua, W; Biochemistry 1996, V35, P9667 HCAPLUS
(3) Doig, A; Protein Sci 1995, V4, P2247 HCAPLUS
(4) Erickson, H; J Mol Biol 1989, V206, P465 HCAPLUS
(5) Finkelstein, A; Protein Eng 1989, V3, P1 HCAPLUS
(6) Froloff, N; Protein Sci 1997, V6, P1293 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L26 ANSWER 3 OF 13 HCAPLUS COPYRIGHT 2001 ACS
AN 1998:693848 HCAPLUS
DN 130:10156
TI Partially methylated .beta.-cyclodextrin **analysis**. A systematic approach to appropriate RP column selection
AU Caron, I.; Elfakir, C.; Dreux, M.
CS Inst. Chimie Organique Analytique, Univ. Orleans, Orleans, F-45067, Fr.
SO J. High Resolut. Chromatogr. (1998), 21(10), 554-560
CODEN: JHRCE7; ISSN: 0935-6304
PB Wiley-VCH Verlag GmbH
DT Journal
LA English
AB To establish guidelines for the choice of the most suitable octadecyl- or octyl-bonded phase for the liq. chromatog. **anal**. of a given partially methylated .beta.-cyclodextrin **sample**, **anal**. of com. available dimethyl-.beta.-cyclodextrins (DM-.beta.-CDs) was carried out on octyl- (C8), or octadecyl- (C18), silica-, or polymeric bonded phases which differ significantly in their **hydrophilic** and hydrophobic properties. Chromatograms show that the nature of the packing materials has considerable influence on the resoln. of **complex** mixts. composed of closely related compds. such as partially methylated .beta.-CDs. Among various kinds of C8- and C18-bonded phases, silica-based and monomeric phases which present both reinforced hydrophobic and polar interactions showed the best performance.
Whatever the **complexity** of the com. DM-.beta.-CD, the richest chromatog. fingerprints, which best depict the **complexity** of the mixt., are obtained with Nucleosil 50-5-C8 column. For the simplest mixts., Nucleosil 50-5-C8 column with MeCN/H2O (34:66) as mobile phase is the most suitable chromatog. system and **leads** to the best resoln. between heptakis(2,6-di-O-methyl)-.beta.-CD and hexakis(2,6-di-O-methyl)-mono(2,3,6-tri-O-methyl)-.beta.-CD (14 OMe and 15 OMe). This chromatog. system might enable an LC-MS coupling for direct identification of the different components in the mixt. as well as control of batch to batch variations.
RE.CNT 27
RE
(1) Bidlingmeyer, B; J Chromatogr Sci 1997, V35, P392 HCAPLUS
(2) Bielejewska, A; Anal Chim Acta 1995, V300, P201 HCAPLUS
(3) Caron, I; Chromatographia 1998, V47, P383 HCAPLUS
(4) Caron, I; J Chromatogr A 1996, V746, P103 HCAPLUS
(6) Chatjigakis, A; Chromatographia 1993, V36, P174 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L26 ANSWER 4 OF 13 HCAPLUS COPYRIGHT 2001 ACS
AN 1997:223849 HCAPLUS
DN 126:222541
TI A Metal-Chelating Lipid for 2D Protein Crystallization via Coordination of Surface Histidines
AU Pack, Daniel W.; Chen, Guohua; Maloney, Kevin M.; Chen, Chao-Tsen; Arnold, Frances H.
CS Division of Chemistry and Chemical Engineering, California Institute of Technology, Pasadena, CA, 91125, USA
SO J. Am. Chem. Soc. (1997), 119(10), 2479-2487
CODEN: JACSAT; ISSN: 0002-7863
PB American Chemical Society
DT Journal
LA English
AB Two-dimensional protein crystn. on lipid monolayers is becoming a powerful technique for structure **detn.** as well as **materials** applications. However, progress has been hindered by the requirement of a unique affinity lipid for each new protein of interest. Metal ion coordination by surface-accessible histidine side chains provides a convenient and general method for targeting of proteins to surfaces. Here we present the synthesis and characterization of a metal-chelating lipid which has been designed to target proteins to Langmuir monolayers and promote their two-dimensional crystn. based on histidine coordination. The lipid utilizes the metal chelator iminodiacetate (IDA) as the **hydrophilic** headgroup and contains unsatd., oleoyl tails to provide the fluidity necessary for two-dimensional protein crystn. The lipid is shown to bind **copper** from the subphase strongly when incorporated in Langmuir monolayers. In addn., it is possible to form **copper**-contg. monolayers by spreading the premetalated lipid on the subphase in the absence of **copper**. Fluorescence microscopy reveals the binding and crystn. of the protein streptavidin, promoted by the simultaneous coordination of two surface-accessible histidine side chains to the IDA-**Cu** lipid.

L26 ANSWER 5 OF 13 HCAPLUS COPYRIGHT 2001 ACS
AN 1997:161627 HCAPLUS
TI Relationship between point source remediation and speciation of the inputs
of **copper** and **zinc** into a Chesapeake Bay tributary.
AU Kango, Reyaz A.; Short, John T.; Hicks, K. W.
CS Department Chemistry, Norfolk State University, Norfolk, VA, USA
SO Book of Abstracts, 213th ACS National Meeting, San Francisco, April 13-17 (1997), GEOC-200 Publisher: American Chemical Society, Washington, D. C. CODEN: 64AOAA
DT Conference; Meeting Abstract
LA English
AB Urban wastes contribute huge amts. of toxic metals to coastal waters. Waste inputs into Elizabeth river (a tributary of Chesapeake Bay) from point sources are being taken care by waste treatment facilities. Our **anal**. on wastewater **samples** before and after remediation suggested that speciation of metals effects their remediation properties. **Anal**. and speciation of the metals was done by DPP, DPASV and AAS. Results from electrochem. techniques show that urban wastewaters have up to 3000 ppb of **zinc** and 130 ppb of **copper**. Remediated samples had significant levels of **zinc** present as **hydrophilic** org. **complexes** (about 500ppb). Remediation in the case of **copper** seemed effective (less than 1 ppb). Work is in progress to devise protocols for effective remediation chemistries in the case of **zinc**.

L26 ANSWER 6 OF 13 HCAPLUS COPYRIGHT 2001 ACS
AN 1996:581948 HCAPLUS
DN 125:269655
TI Adsorption of Cd,**Zn**-metallothionein on covered Hg electrodes and its voltametric **determination**
AU Fedurco, Milan; Sestakova, Ivana
CS J. Heyrovsky Institute of Physical Chemistry, Academy of Sciences of the Czech Republic, Prague, 182 23/8, Czech.
SO Bioelectrochem. Bioenerg. (1996), 40(2), 223-232
CODEN: BEBEBP; ISSN: 0302-4598
DT Journal
LA English
AB Compact triphenylphosphine oxide or tripiperidinophosphine oxide films formed at Hg surfaces are shown to increase Cd,**Zn**-metallothionein (MT) adsorptivity at the polarized electrode/soln. interface. Interactions of the polar P:O group of these adsorbates with the **hydrophilic** centers located on the metalloprotein exterior are suggested as being responsible for this phenomenon. The resulting cathodic current (ic) due to the redn. of coordinated Cd(II) in Cd,**Zn**-MT increases more than seven times in the presence of 1.0.times.10-3 M triphenylphosphine oxide. The ic response at about -0.72 V vs. Ag/AgCl then varies linearly with the bulk concn. of Cd,**Zn**-MT from 2.times.10-9 to 5.times.10-5 mol dm-3. **Detection** limit for the rabbit liver Cd,**Zn**-MT is found to be 8.9.times.10-10 mol dm-3 using the differential pulse voltametric technique on a hanging mercury drop electrode. This novel method for the **detection** of the thiolate-chelated Cd(II) **complexes** allows the filtering out of cathodic currents due to electroredn. of the free-uncoordinated Cd2+ ions which might interfere with the MT **detn.** in some **biol. samples.** Advantages of the present method compared to other electroanal. methods for MT **detn.** are discussed.

L26 ANSWER 7 OF 13 HCAPLUS COPYRIGHT 2001 ACS
AN 1996:324732 HCAPLUS
DN 125:75408
TI Differential cytotoxicity of **iron** chelators on malaria-infected cells versus mammalian cells
AU Glickstein, Hava; Breuer, William; Loyevsky, Mark; Konijn, Abraham M.; Libman, Jacqueline; Anzer, Abraham; Cabantchik, Z. Ioav
CS Inst. Life Sci., Hebrew Univ. Jerusalem, Jerusalem, 91904, Israel
SO Blood (1996), 87(11), 4871-4878
CODEN: BLOOAW; ISSN: 0006-4971
DT Journal
LA English
AB **Iron** chelators of the hydroxamate class arrest in vitro proliferation of malaria parasites and of mammalian cells. The factors **detg.** the **biol.** activity of the chelators have classically been attributed to the chelators' capacity for binding **iron** and to their ability to traverse membranes as free chelators and as chelator-**iron complexes**. We show in this work that the nature of the chelatable pool of cell **iron** also contributes to the susceptibility of cells to **iron** chelators. A class of N-terminal (Nt) derivs. of desferrioxamine (DFO), (Nt-DFO), is shown here to differentially affect growth and replication of intraerythrocytic parasites (Plasmodium falciparum). Methyl-anthranilic DFO (MADFO), the relatively less **hydrophilic** member of the Nt-DFOs series, reduced parasite proliferation (48 h test) with an IC50 of 4 .+-. 1 .mu.mol/L and mammalian cell (K562 and HepG2) proliferation with an IC50 > 100 .mu.mol/L. On the other hand, the more **hydrophilic** Nt-free DFO, displayed IC50 values of 21 .+-. 5 .mu.mol/L for parasites and 7 .+-. 1 .mu.mol/L for mammalian cells. The selective antiparasitic activity of MA-DFO, as reflected in the speed of action and IC50 values on cell proliferation, is attributed primarily to membrane permeation and **iron**(III) binding properties of the drug. In contrast, the relatively low antiproliferative activity of the more permeant MA-DFO on mammalian cells, resulted from MA-DFO's reduced capacity for scavenging intracellular **iron**. This is apparent from MA-DFO reduced effects on: (1) the chelatable **iron**(II) pool that is assocd. with the cell cytosol; (2) the cell chelator-extractable **iron**, and (3) cell ferritin levels. The potent antimalarial efficacy and biol. selectivity of MA-DFO relative to the parent DFO, is of importance for improved design of chemotherapeutic agents.

L26 ANSWER 8 OF 13 HCAPLUS COPYRIGHT 2001 ACS
AN 1996:223259 HCAPLUS
DN 124:311520
TI Influence of specimen preparation on the identification of phospholipids by the phospholipase A2-**gold** method in mineralizing cartilage and bone
AU Zini, N.; Sabatelli, P.; Silvestrini, G.; Bonucci, E.; Maraldi, N. M.
CS Inst. of Citomorfologia, C.N.R., Bologna, I-40136, Italy
SO Histochem. Cell Biol. (1996), 105(4), 283-96
CODEN: HCBIFP
DT Journal
LA English
AB The role of phospholipids in biol. mineralization has been hypothesized but not fully elucidated. To identify phospholipids at the ultrastructural level in the mineralizing extracellular matrix, rat epiphyseal cartilage and metaphyseal bone were labeled with the phospholipase A2 (PLA2)-**gold** method. The specificity and efficiency of phospholipid **detection** were evaluated by postembedding labeling of sections from epoxy-or **hydrophilic** resin-embedded samples and by preembedding labeling of cryosectioned samples. The efficiency of the labeling was higher in cryosections than in **hydrophilic** resin-embedded specimens, while lower efficiency was found in epoxy resin-embedded samples. A 2-6-fold increase of the labeling d. in calcified with respect to uncalcified areas of cartilage and bone was found, depending on the specimen prepn. used. The labeling intensity was significantly higher at the periphery of the calcifying nodules in the epiphyseal cartilage matrix and in the calcifying osteoid, while the fully calcified bone matrix presented a weak labeling. Matrix vesicles, which are considered a possible source of extracellular phospholipids, appeared labeled in cryosections and epoxy resin-embedded samples after a preincubation with PLA2, which also increased the labeling of the intracellular membranes. The localization of phospholipids in the areas of initial mineralization suggests some hypotheses on the possible involvement of these mols. in the mineral phase deposition process.

L26 ANSWER 9 OF 13 HCAPLUS COPYRIGHT 2001 ACS
AN 1995:499552 HCAPLUS
DN 122:263967
TI Effects of .kappa.-casein glycosylation on heat stability of milk
AU Robitaille, Gilles; Ayers, Carolyn
CS Department of Animal Science, McGill University, Ste Anne de Bellevue, PQ,
H9X 1C0, Can.
SO Food Res. Int. (1995), 28(1), 17-21
CODEN: FORIEU; ISSN: 0963-9969
DT Journal
LA English
AB A study was conducted to **det.** the relation between the degree of glycosylation of .kappa.-casein (CN) and heat stability of milk at 140.degree. between pH 6.2 and 6.9. Morning milk samples from individual Holstein cows in mid-lactation were collected and **analyzed.** In the first series of expts., the heat clotting time vs. pH (HCT-pH) curves were **detd.** for 37 individual milk **samples** having various degrees of glycosylation of CN, estd. through the N-acetylneuraminic acid (NANA) content in .mu.g/**mg** of CN (NANA/k-CN). The mean NANA/CN, HCTmax, and HCTmin were 50.3 .+-. 22.3 .mu.g/**mg**, 17.4 .+-. 1.2 min, and 3.3 .+-. 0.7 min, resp. The statistical **anal.** showed that the variations in the degree of glycosylation of CN in normal milk did not significantly affect the heat stability parameters. The effect of NANA depletion on the HCT-pH profile was tested in the second series of expts. HCT-pH profiles of 14 individual milk samples, untreated and neuraminidase-treated to extensively remove NANA assocd. with CN, were compared. The av. NANA/CN before treatment, the HCTmax, and HCTmin were 78.3 .+-. 24.9 .mu.g/**mg**, 21.4 .+-. 1.5 min, and 3.6 .+-. 0.8 min, resp. As no effect of the desialylation was obsd. for HCTmin and pH1 and as the effect on HCTmax, although significant, was very low (0.7 min on av.), these results indicate that the charges and the extent of **hydrophilicity** of the heat-induced CN/.beta.-LG **complexes** are not the crucial factors for the prodn. of CN depleted micelles upon heating and that the glycosylation of CN does not affect its heat-induced interaction with .beta.-LG.

L26 ANSWER 10 OF 13 HCAPLUS COPYRIGHT 2001 ACS
AN 1995:337332 HCAPLUS
DN 122:126798
TI Phase Behavior of a Lipid/Polymer-Lipid Mixture in Aqueous Medium
AU Hristova, Kalina; Needham, David
CS Department of Mechanical Engineering and Materials Science, Duke University, Durham, NC, 27708, USA
SO Macromolecules (1995), 28(4), 991-1002
CODEN: MAMOBX; ISSN: 0024-9297
DT Journal
LA English
AB The phase behavior of a mixt. of bilayer forming lipids and polymer-lipids (lipids with covalently attached polymer to their **hydrophilic** moieties) in excess water is studied theor. The mixt. is predicted to exhibit **complex** phase behavior for polymer mol. wts. 2000 and 5000, depending on the concn. (fraction) of polymer-lipids in the lipid mixt. The bilayer is characterized by a maximal concn. nsat (satn. limit) of polymer-lipids that it can incorporate, as **detd.** by its **material** properties (elastic modulus of area expansion and crit. area expansion). At a different concn. ntr, which we call the thermodn. crossover, micelle formation becomes energetically favorable over bilayer formation. We show that for DSPC and SOPC bilayers ntr < nsat. Increase of the polymer-lipid concn. above ntr **leads** to a gradual transition from a bilayer to a micellar phase; bilayers and micelles can coexist. In the transition region the polymer-lipid concn. is higher in the micellar phase than in the coexisting bilayer.

L26 ANSWER 11 OF 13 HCAPLUS COPYRIGHT 2001 ACS
AN 1995:19679 HCAPLUS
DN 122:45125
TI Metal ion capillary electrophoresis with direct UV **detection**. Effect of a charged surfactant on the migration behavior of metal chelates
AU Timerbaev, A. R.; Semenova, O. P.; Jandik, P.; Bonn, G. K.
CS Department of Analytical Chemistry, Johannes Kepler University, Linz, A-4040, Austria
SO J. Chromatogr., A (1994), 671(1-2), 419-27
CODEN: JCRAEY
DT Journal
LA English
AB The migration behavior of anionic metal 4-(2-pyridylazo)resorcinol (PAR) and Arsenazo III **complexes** was investigated in capillary electrophoresis (CE) using micellar solns. of sodium dodecyl sulfate. The sepn. mechanism of arsenazo **complexes** is governed by the electrophoresis in the bulk carrier electrolyte without any observable interaction with the micellar phase. For less **hydrophilic** PAR **complexes**, the resoln. can be addnl. explained in terms of differential partitioning into the micelle. It was also found that ion-pair formation between anionic solutes and the cationic component of the electrophoretic buffer contributes to the retention mechanism and permits the sepn. of closely migrating PAR **complexes**. Both chelating systems have been applied to the CE sepn. and **detn**. of various metal ions with enhanced selectivity and sensitivity relative to previously reported metal **complexation** CE techniques. Application to the **anal**. of **complex sample** matrixes, contg. high levels of acids and **complexing** agents, was demonstrated.

L26 ANSWER 12 OF 13 HCAPLUS COPYRIGHT 2001 ACS
AN 1984:583039 HCAPLUS
DN 101:183039
TI High-frequency inductively coupled plasma emission spectrometer and its use
PA Asahi Glass Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| PI JP 59090033 | A2 | 19840524 | JP 1982-199671 | 19821116 |

AB Title app. has a sample introduction system made of HF-resistant material whose surface (contacting the atomized sample) is **hydrophilic**. Sample solns. in HF can be thus **analyzed** with good reproducibility. Thus, the surface (contacting the sample) of the sample introduction system of a conventional app. was dipped in Tetra-etch (alkali metal-arom. **complex** soln.; Junkosha **Co.**) and then in dil. HCl, washed, and dried. The **analyzer** equipped with the treated system for sample introduction gave good reproducibility when **analyzing** aq. HF solns. of borosilicate glass.

L26 ANSWER 13 OF 13 HCAPLUS COPYRIGHT 2001 ACS
AN 1984:477962 HCAPLUS
DN 101:77962
TI Surface chloride salt formation on space shuttle exhaust alumina
AU Cofer, W. R., III; Pellett, G. L.; Sebacher, D. I.; Wakelyn, N. T.
CS Langley Res. Cent., Natl. Aeronaut. Space Adm., Hampton, VA, 23665, USA
SO J. Geophys. Res., D: Atmos. (1984), 89(D2), 2535-40
CODEN: JGRDE3
DT Journal
LA English
AB Aluminum oxide samples from the exhaust of space shuttle launches STS-1, STS-4, STS-5, and STS-6 were collected from surfaces on or around the launch pad **complex** and chem. **analyzed**. The water-sol. fraction, pH, acid-sol. fraction, and insol. fraction were **detd**. for each **sample**. X-ray diffraction **anal**. of the insol. particulate fractions (always >72%, of the sample wt.) indicated that these fractions were .alpha.-Al2O3 and thus confirmed that the 6 **samples analyzed** were space shuttle alumina. Electron microscopic examn. of the particles revealed spherical morphologies with diams. of 1-25 .mu.m. Ca, **Mg**, K, NH4+ and Na were measured as indicators of the amt. of ground debris or sea-salt particles incorporated into the samples. All **samples analyzed** contained significantly elevated amts. of water-sol. Cl- and Al3+. Results from these **analyses**, and from lab. expts. in which calcination-produced aluminas were exposed to gaseous HCl and H2O mixts. from room temp. to 220.degree., suggest that the surface of the shuttle exhaust alumina particulates should be viewed as having more of the characteristics and properties (e.g., **hydrophilicity**) of aluminum chlorides and oxychlorides than of aluminum oxides. Since the collection techniques were crude and strongly biased toward the collection of large particles, similar surface **analyses** of particles collected from high-altitude shuttle exhaust plumes are needed.

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=> d his

     (FILE 'HOME' ENTERED AT 10:15:10 ON 26 JAN 2001)

     FILE 'HCAPLUS' ENTERED AT 10:15:22 ON 26 JAN 2001
L1            59 S ELAISSARI A?/AU
L2            13 S DURACHER D?/AU
L3           186 S PICHOT C?/AU
L4            63 S MALLET F?/AU
L5           772 S NOVELLI?/AU
L6             1 S L1 AND L2 AND L3 AND L4 AND L5
                 SELECT RN L6 1

     FILE 'REGISTRY' ENTERED AT 10:16:28 ON 26 JAN 2001
L7            17 S E1-17

     FILE 'HCAPLUS' ENTERED AT 10:16:42 ON 26 JAN 2001
L8             1 S L6 AND L7
L9            54 S (DETN OR DETERMIN? OR ANALY? OR DETECTION)(4A)(SAMPLE OR
BIOL
L10         1464 S (DETN OR DETERMIN? OR ANALY? OR DETECTION) AND COMPLEX? AND
H
L11          157 S L10 AND (TRANSITION METAL OR ZINC OR ZN OR NICKEL OR NI OR
CO
L12          198 S L10 AND (COBALT OR CO OR IRON OR FE)
L13          104 S L10 AND (MAGNESIUM OR MG OR MANGANESE OR MN)
L14           93 S L10 AND (LEAD OR PB OR PALLADIUM OR PD)
L15           49 S L10 AND (PLATINUM OR PT OR GOLD OR AU)
L16          414 S L11-L15

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     FILE 'HCAPLUS' ENTERED AT 11:08:34 ON 26 JAN 2001
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L17           SEL L16 1- RN :    2595 TERMS
                 SET SMARTSELECT OFF

     FILE 'REGISTRY' ENTERED AT 11:09:03 ON 26 JAN 2001
L18         2591 S L17
L19          242 S L18 AND PMS/CI

     FILE 'HCAPLUS' ENTERED AT 11:11:01 ON 26 JAN 2001
L20          113 S (L11-L15) AND L19
                 E DETER/CV
                 E DETERMIN/CV
                 E DETERMIN/IT
                 E DETERMINATION/IT
L21       798794 S DETERMINATION/IT
L22           21 S L20 AND L21
L23           55 S L20 AND (ANALY? OR DETN OR DETECT?)/IT
L24           55 S L22 OR L23
L25           17 S L9 AND (L11-L15)
L26           13 S L25 NOT L24
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     FILE 'WPIDS' ENTERED AT 11:52:02 ON 26 JAN 2001
L27           36 S L9
L28            8 S L27 AND (TRANSITION METAL OR ZINC OR ZN OR NICKEL OR NI )
L29           10 S L27 AND ((COBALT OR CO OR IRON OR FE OR COPPER OR CU))
L30            5 S L27 AND  (MAGNESIUM OR MG OR MANGANESE OR MN)
L31            5 S L27 AND   (LEAD OR PB OR PALLADIUM OR PD)
L32            5 S L27 AND  (PLATINUM OR PT OR GOLD OR AU)
L33           18 S L28-L32
L34           12 S L33 AND (POLY? OR POLYMER?)
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L34 ANSWER 1 OF 12 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
AN 2000-587199 [55] WPIDS
CR 2000-587198 [48]
DNN N2000-434582 DNC C2000-175044
TI Capillary electrophoretic carrier material having different derivatizations or functionalities on the pores and outer surfaces, allowing quantitative removal of matrix components during **analysis** of **biological samples.**
DC A89 B04 D16 J04 S03
IN MUSCATE-MAGNUSSEN, A
PA (EVOT-N) EVOTEC BIOSYSTEMS AG
CYC 90
PI WO 2000050887 A1 20000831 (200055)* DE 71p
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
AU 2000031578 A 20000914 (200063)
ADT WO 2000050887 A1 WO 2000-EP1393 20000221; AU 2000031578 A AU 2000-31578 20000221
FDT AU 2000031578 A Based on WO 200050887
PRAI DE 2000-10004673 20000203; DE 1999-19907296 19990222
AN 2000-587199 [55] WPIDS
CR 2000-587198 [48]
AB WO 200050887 A UPAB: 20001205
NOVELTY - The use of a porous carrier material (I) for capillary electrochromatography (CEC), is new. The outer surface and pore surface regions of (I) have different derivatizations and/or functionalities.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for:
(1) CEC apparatus comprising:
(a) a carrier material holding unit, having inlet(s) and outlet(s) and filled with (I);
(b) at least two containers for mobile phase; and
(c) at least one potential source; and
(2) a CEC process comprising:
(a) applying a **sample**, consisting of **analyte** and **sample** matrix, to apparatus as in (1);
(b) applying an electrical potential to create and electro-osmotic flux by applying a washing buffer;
(c) eluting the sample matrix;
(d) applying a transfer buffer; and
(e) eluting the analyte.
USE - (I) is useful in capillary electrochromatographic **analysis**, especially of **complex biological samples** (e.g. hemolyzed blood, plasma, serum, milk, saliva, fermentation broths, urine, supernatants of cell cultures, foods or tissue homogenates or natural extracts) which contain a large number of matrix components (e.g. proteins and salts) as well as the analytes. The assays are used e.g. in therapy control, determination of natural body components or high throughput scanning of potential drugs. Examples relate to the

separation of analyte mixtures of thiourea, acetaminophen, benzocaine, propranolol and quinine; and separation of benzocaine from rat serum or dog plasma.

ADVANTAGE - (I) allows virtually quantitative separation of analytes from other components of the sample, especially proteins and other macromolecules. The analyte can be concentrated in the upper edge of the column and quantitatively separated independently of the matrix. Repeated direct injection of untreated samples into the column is possible. The system has high separation performance, sensitivity, accuracy, signal-to-noise ratio and reproducibility (with respect to baseline, retention time and resolution). Automation is possible, and a large number of assays can be carried out continuously at low cost.

DESCRIPTION OF DRAWING(S) - The figure shows a capillary electrochromatographic column system, comprising a single column for sample processing and/or separation.

Column 30

Carrier material 60

Container 90

Mobile phase 120

Potential source 10

Detector 150

Dwg.1/13

L34 ANSWER 2 OF 12 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
AN 2000-514827 [46] WPIDS
DNC C2000-153615
TI Biosensor for measuring an **analyte** in a **biological** fluid e.g. for measuring alanine aminotransferase concentration in whole blood samples to diagnose liver disorders, comprises a smooth working electrode and an anticoagulant.
DC B04 D16 J04
IN COUSINEAU, K L; HENNING, T P
PA (ABBO) ABBOTT LAB
CYC 20
PI WO 2000044930 A1 20000803 (200046)* EN 63p
RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
W: CA JP
ADT WO 2000044930 A1 WO 1999-US30828 19991227
PRAI US 1999-239200 19990128
AN 2000-514827 [46] WPIDS
AB WO 200044930 A UPAB: 20000921
NOVELTY - A biosensor for determining the concentration of an analyte (e.g. alanine aminotransferase (ALT)) in biological fluid samples using a smooth working electrode, to enable determination of low concentrations, and including an anticoagulant, to allow whole blood samples to be used, is new.

DETAILED DESCRIPTION - The biosensor comprises:

(a) a base layer to provide mechanical support for the other layers;

(b) a detecting layer comprising a reference electrode and a working electrode, the surface of the electrically conductive portion of the working electrode being sufficiently smooth to enable determination of the concentration of an analyte present in a low concentration (optionally lower than 1 mM);

(c) a layer overlying the electrodes comprising dried reagent; and

(d) an anticoagulant located so that it prevents the **sample** from coagulating during the **determination**.

An INDEPENDENT CLAIM is also included for a method of determining the concentration of an **analyte** in a **sample** of **biological** fluid, comprising:

(1) providing the biosensor;

(2) introducing a biological fluid to the biosensor;

(3) allowing the fluid to dissolve dried reagents;

(4) allowing a chemical reaction to occur at the detecting layer; and

(5) reading the output of the chemical reaction.

USE - The biosensor is used to determine the concentration of an **analyte** in a **sample** of **biological** fluid e.g. to measure alanine aminotransferase (ALT) in whole blood samples (claimed), by introducing the sample so that the dried reagents are dissolved and a chemical reaction occurs at the detecting layer, and reading the output of the reaction to determine the analyte concentration (claimed). ALT measurement is useful to help diagnose and monitor liver disorders/damage e.g. from hepatitis, toxins or adverse reactions to drugs, and the biosensor enables self-monitoring by patients without the

need to travel to an assay center.

ADVANTAGE - An anticoagulant is included which prevents blood samples from clotting, enabling whole blood (e.g. taken from the fingertip) to be used, and eliminating the need for personnel trained in drawing blood and for blood processing to obtain serum or plasma. The biosensor also uses a smooth working electrode, enabling determination of an analyte present in a low concentration. It thus enables self-monitoring by patients, not previously possible for ALT because of the **complexity** of existing assays and because it is normally present in low concentrations in the blood, making accurate determination difficult.

DESCRIPTION OF DRAWING(S) - The figure shows an exploded view of a biosensor.

multiple-layer element 100
detecting layer 102
working electrode 104
reference electrode 106
base layer 108
reagent layer optionally containing anticoagulant 114
fluid-transporting layer 116
sample application zone 118
covering layer 120

Dwg.1A/8

L34 ANSWER 3 OF 12 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
AN 2000-451739 [39] WPIDS
DNN N2000-336368 DNC C2000-137532
TI Multilayered material used to e.g. capture molecules including antibodies and enzymes in assays, to isolate molecules, to **determine** **analyte** in test **samples** and to **determine** binding affinity.
DC A89 B04 C07 D16 E19 J04 K02 P42 P73 S03
IN ABBOTT, N; DUBROVSKY, T B; HOU, Z; STROEVE, P
PA (REGC) UNIV CALIFORNIA
CYC 20
PI WO 2000032044 A1 20000608 (200039)* EN 14p
RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
W: CA JP
ADT WO 2000032044 A1 WO 1999-US28827 19991203
PRAI US 1998-205750 19981204
AN 2000-451739 [39] WPIDS
AB WO 200032044 A UPAB: 20000818
NOVELTY - Multilayered material (I) comprising a particulate substrate, metal film layered onto the substrate, and an organic layer attached to the metal film.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a multilayer material, comprising a silica substrate, a metal film layered onto the substrate, an organic layer attached to the metal film, and a recognition moiety attached to the organic layer, and or metal film;

(2) a multilayer material comprising a silica substrate, a metal film layered onto the substrate, and an organosulfur layer attached to the **gold** film, with a recognition moiety attached to it;

(3) capturing a molecule, comprising contacting the particle with (I) having a recognition moiety attached to the organic layer or metal film, the recognition moiety associates with the molecule, forming a **complex** of the captured molecule;

(4) purifying a molecule from a mixture of molecules by using the method of (3);

(5) a device for capturing a molecule, comprising (I) having a recognition moiety attached to the organic layer or metal film, and means to contain or support the multilayer material;

(6) isolating a molecule from other molecules by affinity chromatography, comprising contacting the molecule with (I) having a recognition moiety attached to the organic layer and/or metal film, forming a **complex** between the recognition moieties and the molecule, and washing the **complexes** with a solvent for the other molecules;

(7) determining the presence or amount of an **analyte** in a **sample**, comprising:

(a) contacting the sample with (I) having a recognition moiety attached to the organic layer and/or metal film;

(b) forming a **complex** between the recognition moiety and at least a portion of the analyte; and

(c) detecting the analyte;

(8) detecting or quantifying binding affinity between a binding partner and a recognition moiety, and/or a second binding partner, comprising:

(a) contacting the first binding partner, or first and second binding partner **complex**, with (I), having a recognition moiety attached to the organic layer and/or metal film;

(b) forming particle-first binding partner **complexes**; and

(c) measuring the affinity;

(9) producing a multilayered particle, comprising contacting a particulate substrate with a metal plating solution to form a particle having a metal film layered on it, and contacting the particle with organic molecules that associate with the metal film;

(10) isolating a molecule from a second molecule, by size exclusion chromatography, comprising contacting the molecules with (I), where the organic layer is a **hydrophilic polymer**, and contacting the mixture with a solvent for both molecules; and

(11) assembling a compound, comprising adding a first component of the compound to (I), adding a second component of the compound, and reacting the two components.

USE - The materials are used to capture molecules such as antibodies, antigens, carbohydrates, nucleic acids, enzymes, enzyme substrates and/or peptides in assays including competitive, sandwich and/or agglutination assays (claimed). The methods can be used to isolate molecules from other molecules, including biomolecules, by affinity chromatography and to determine the presence or amount of **analyte** in a test **sample** (claimed). The methods can also be used to detect or quantify binding affinity between a first binding partner and recognition group and/or second binding partner, to produce multilayered particles,and to isolate a first molecule from a second molecule by size-exclusion chromatography and to assemble compounds and to assemble arrays of compounds (claimed). They may be used in ion-exchange, ion-selective ion exchange, assays, affinity dialysis and size exclusion dialysis, as supports in solid-phase synthesis, combinatorial synthesis and screening of compound libraries. They may be used to screen drugs for their ability to interact with chosen analytes including non-steroidal anti-inflammatory drugs, steroidal anti-inflammatory drugs, antihistaminic drugs, antitussives, antipruritics, anticholinergics, anti-emetics and anti-nauseants, anorexics, central stimulants, antiarrhythmics, beta -adrenergic blockers, cardiotonics, antihypertensives, diuretics, vasodilators, vasoconstrictors, antiulcer drugs, anesthetics, antidepressants, tranquilizers and sedatives, antipsychotics, antimicrobials, antineoplastics, hormones, muscle relaxants, antispasmodics, bone-active drugs, endocrine-modulators, contraceptives, modulators of diabetes, calcitonins, thyroid agents, anti-thyroid agents, antihyperprolactinemics, hormone suppressors, oxytocics, immunomodulators, histamine H2 antagonists, immunosuppressants, or anti-inflammatories. They are used to recognize analytes such as proteins, peptides, nucleic acids,

saccharides or small molecules such as drugs, herbicides, pesticides, industrial chemicals or agents of war.

ADVANTAGE - The particulate materials have a substantially homogeneous, easily assembled organic layer that does not adventitiously and/or non-specifically bind charged species. They can be used as free-flowing powders, adsorbed onto plates or other substrates to form devices analogous to thin-layer chromatography plates or incorporated into aerogels.

Dwg.0/2

L34 ANSWER 4 OF 12 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
AN 2000-442107 [38] WPIDS
DNN N2000-329954 DNC C2000-134319
TI Multilayered porous material comprises a porous substrate, metal film and recognition moiety in an organic layer and is useful for ion-selective ion-exchange and affinity and size exclusion dialysis.
DC A18 A25 A96 B07 C07 D16 J04 P73 S03
IN ABBOTT, N; HOU, Z; STROEVE, P
PA (REGC) UNIV CALIFORNIA
CYC 20
PI WO 2000034033 A1 20000615 (200038)* EN 98p
RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
W: CA JP
ADT WO 2000034033 A1 WO 1999-US27496 19991119
PRAI US 1998-206084 19981204
AN 2000-442107 [38] WPIDS
AB WO 200034033 A UPAB: 20000811
NOVELTY - A multilayered porous material comprises a porous substrate, a metal film adhered onto the substrate, and an organic layer including a recognition moiety attached to the metal film.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

(1) a multilayered porous material comprising a **polycarbonate** track-etched substrate, a metal film adhered to the substrate and an organosulfur layer including a recognition moiety attached to the metal film;

(2) an ion exchange medium comprising a porous substrate, a metal film adhered to the substrate, and an organic layer including a recognition moiety that interacts with the ion attached to the metal film;

(3) removing an ion from a fluid, comprising contacting the fluid with the ion exchange medium of (2);

(4) isolating a molecule from other molecules by affinity dialysis, comprising contacting the molecule with the novel multilayered porous material, and forming a **complex** between the recognition moiety and the molecule;

(5) isolating one molecule from another by size exclusion dialysis, comprising contacting the mixture with the multilayer porous material allowing the first molecule through the material while the second is retained;

(6) determining the presence or amount of an analyte, comprising forming a **complex** between a recognition moiety on the novel multilayered porous **material** and an **analyte** in a test **sample**, and detecting the **analyte**;

(7) a drug delivery device, comprising a drug moiety reversibly associated with a recognition moiety on the novel multilayered material;

(8) producing a multilayered porous material comprising contacting a porous substrate with a metal plating solution, and contacting this with organic molecules which associate with the metal film.

USE - The multilayered porous material is useful for ion-exchange, and ion-selective ion-exchange, assay methods, affinity dialysis and size exclusion dialysis (claimed). The material may also be used to remove ions from a fluid, and in drug delivery devices (claimed).

Dwg.0/5

L34 ANSWER 5 OF 12 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
AN 2000-258992 [23] WPIDS
CR 2000-317371 [24]
DNN N2000-192663 DNC C2000-079365
TI Composition used for detecting **biological** groups e.g. target **analyte** comprises semiconductor nanocrystal core associated with first member of binding pair.
DC B04 D16 L03 S03
IN BAWENDI, M G; MIKULEC, F V; SUNDAR, V C
PA (MASI) MASSACHUSETTS INST TECHNOLOGY
CYC 25
PI EP 990903 A1 20000405 (200023)* EN 39p
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI
GB 2342651 A 20000419 (200023)
ADT EP 990903 A1 EP 1999-307393 19990917; GB 2342651 A GB 1999-22072 19990917
PRAI US 1998-160454 19980924; US 1998-100947 19980918
AN 2000-258992 [23] WPIDS
CR 2000-317371 [24]
AB EP 990903 A UPAB: 20000725
NOVELTY - Composition (A) comprises semiconductor nanocrystal core associated with a first member of a binding pair.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

(1) detecting target analyte which is a second member of the binding pair in a sample by admixing the sample with (A) and detecting binding of the first member of the binding pair and second member of the binding pair by monitoring the spectral emission of the sample, where the intensity and/or wavelength of the emission is related to the presence and/or amount of **analyte** in the **sample**;

(2) labelling a biological molecule or event with a fluorescent label comprising a semiconductor nanocrystal in which the emission spectrum of the fluorescence is dependent upon the nanocrystal size and

(3) controlling the fluorescence emission of a fluorescent group in use in a biological system which comprises selecting a semiconductor nanocrystal having a desired fluorescence emission spectrum and using the selected nanocrystal as the fluorescent group.

USE - The semiconductor nanocrystal is used as a fluorescent label in immunochemistry, optionally in immunocytochemistry or in an immunoassay, in DNA sequence analysis, in fluorescence resonance energy transfer in assessing the proximity of two or more biological compounds to each other, in flow cytometry or in a fluorescence activated cell sorter, in a diagnostic method or in biological imaging.

ADVANTAGE - A combination of tunability, narrow linewidths and symmetric emission spectra without a tailing region gives high resolution multiply sized nanocrystals and allows simultaneous examination of different **biological** groups e.g. target **analytes** tagged with nanocrystals. The range of excitation wavelengths of the nanocrystals is broad and can be higher in energy than the emission

wavelengths of all available semiconductor nanocrystals, which allows simultaneous excitation of all populations of nanocrystals in a system having distinct emission spectra with a single light source. The nanocrystals are more robust than organic fluorescent dyes and more resistant to photobleaching than organic dyes.
Dwg.0/10

L34 ANSWER 6 OF 12 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
AN 2000-071693 [06] WPIDS
DNN N2000-056062 DNC C2000-020480
TI **Detection** of **biological** molecules using boronate based chemical amplification and optical sensors.
DC B04 P31
IN DARROW, C B; HARDER, J; LANE, S M; MASTROTOTARO, J J; PEYSER, T A; SATCHER, J H; VAN ANTWERP, W P
PA (MINI-N) MINIMED INC; (REGC) UNIV CALIFORNIA
CYC 1
PI US 6002954 A 19991214 (200006)* 30p
ADT US 6002954 A Provisional US 1995-7575 19951122, US 1996-749366 19961121
PRAI US 1995-7575 19951122; US 1996-749366 19961121
AN 2000-071693 [06] WPIDS
AB US 6002954 A UPAB: 20000203
NOVELTY - An implantable amplification system comprises a **polymer** matrix and an amplification component within the matrix producing a **polyhydroxylated** analyte signal upon interrogation by an optical system

DETAILED DESCRIPTION - The amplification component requires intramolecular electron transfer for production of the signal and comprises a compound of formula (I):

D1 = dye selected from fluorescent, luminescent and colorimetric dyes;

R1, R3, and R4 = substituents which alter the electronic properties of the groups to which they are attached or are functional groups which can form covalent linkages to the surrounding **polymer** matrix, preferably H, OH, acyl, 1-4C alkoxy, halo, SH, SO2H, SO3H, SO2NH2, NO2, CN, CO2H, 1-12C alkyl, 1-12C alkenyl, 1-12C alkynyl, aryl, arylalkyl, amine; the alkyl, alkenyl, alkynyl, aryl, arylalkyl and amine all being optionally substituted by OH, acyl, aryl, 1-4C alkoxy, halo, thiol, SO3H, amine, SO2NH2, SO2H, NO2, CN, C(O)NH2 and/ or COOH ;

R2 = H or 1-4C alkyl;

L1, L2 = linking group with 0-4 contiguous atoms selected from C, N, S, O and P;

Z' = N, S, O or P; and

x = 0 - 4.

INDEPENDENT CLAIMs are also provided for:

(1) a method for quantifying the amount of a **polyhydroxylated** analyte in an individual, comprising:

(a) interrogating a subcutaneously implanted amplification system comprising a **polymer** matrix containing a compound of formula (I) with an energy source to provide an excited amplification system which produces an energy emission corresponding to the amount of **polyhydroxylated** analyte; and

(b) detecting the emission to quantify the amount of **polyhydroxylated** analyte.

(2) a biosensor for measuring the amount of a **polyhydroxylated** analyte in vivo comprising:

(a) an implantable amplification system comprising a **polymer** matrix containing a compound of formula (I); and

(b) an optical system comprising an optical source and a detector which detects the signal.

USE - As a minimally invasive optical sensor for detecting

**polyhydroxylated** compounds such as glucose.

ADVANTAGE - The sensor is able to measure glucose over the entire physiological range, with an accuracy and precision of over 95 %, and a linear dynamic range of at least 200 and a signal to noise ratio of at least 50. It is also easy to use, provides continuous glucose information, does not require a blood sample and is pain free.
Dwg.0/14

L34 ANSWER 7 OF 12 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
AN 1999-528826 [45] WPIDS
DNN N1999-391762 DNC C1999-155705
TI Electrochemiluminescence assay, especially for biological substances, with
long measurement period.
DC B04 D16 J04 S03
IN EGGER, M; JOSEL, H; PUNZMANN, G
PA (HOFF) ROCHE DIAGNOSTICS GMBH; (BOEF) BOEHRINGER MANNHEIM GMBH
CYC 26
PI DE 19811582 A1 19990923 (199945)* 11p
EP 949503 A1 19991013 (199947) DE
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI
JP 11311607 A 19991109 (200004) 8p
ADT DE 19811582 A1 DE 1998-19811582 19980317; EP 949503 A1 EP 1999-104897 19990311; JP 11311607 A JP 1999-72146 19990317
PRAI DE 1998-19811582 19980317
AN 1999-528826 [45] WPIDS
AB DE 19811582 A UPAB: 19991122
NOVELTY - Detection of an **analyte** in a **sample** is performed using a label comprising a metal **complex** containing at least one charge carrier and/or at least one **hydrophilic** group.

DETAILED DESCRIPTION - Detecting an **analyte** in a **sample** by electrochemiluminescence comprises using a label comprising a metal **complex** containing at least one charge carrier and/or at least one **hydrophilic** group and measuring the electrochemiluminescence for at least 0.5 seconds.

An INDEPENDENT CLAIM is also included for detecting an **analyte** in a **sample** by electrochemiluminescence, comprising:

(a) providing an electrochemiluminescence device comprising a measuring electrode;

(b) contacting the electrode with a conditioning fluid containing an electrochemiluminescence **co**-substrate;

(c) adjusting the conditions at the electrode so that activated **co**-substrate molecules are generated on and/or in the interfacial region of the electrode;

(d) contacting the electrode with a sample containing an electrochemiluminescence **co**-substrate and a label comprising a metal **complex** containing at least one charge carrier and/or at least one **hydrophilic** group;

(e) applying an electrochemiluminescence-inducing potential to the electrode and measuring the electrochemiluminescence; and

(f) correlating the measured luminescence with the presence or amount of the **analyte** in the **sample**.

ACTIVITY - None given.

MECHANISM OF ACTION - None given.

USE - For qualitative or quantitative detection of cells, viruses, sub-cellular particles, proteins, lipoproteins, glycoproteins, peptides, **polypeptides**, nucleic acids, oligosaccharides, **polysaccharides**, lipopolysaccharides, cellular metabolites, haptens, hormones, drugs, alkaloids, steroids, vitamins, amino acids,

sugars, etc.

ADVANTAGE - The electrochemiluminescence signal is at least 2-5 times that achievable with non-**hydrophilic** ruthenium tris(bipyridyl) labels, allowing cheap semiconductor detectors to be used instead of expensive photo-multiplier tubes, and remains constant for longer, allowing longer measurement periods and providing greater sensitivity. Oxygen quenching and nonspecific adsorption are also reduced.

Dwg.0/3

L34 ANSWER 8 OF 12 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
AN 1998-568870 [48] WPIDS
DNN N1998-442536 DNC C1998-171086
TI Isolation and **detection** of **biological material** - such as antibodies using a **polymeric** capture phase carrying a biological detector.
DC A14 A96 B04 D16 S03
IN DURACHER, D; ELAISSARI, A; MALLET, F; NOVELLI, R A; PICHOT, C; NOVELLI-ROUSSEAU, A
PA (INMR) BIO MERIEUX
CYC 83
PI WO 9847000 A2 19981022 (199848)* FR 24p
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW
W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM GW HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW
FR 2762394 A1 19981023 (199848)
AU 9874362 A 19981111 (199912)
EP 975968 A2 20000202 (200011) FR
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
ADT WO 9847000 A2 WO 1998-FR772 19980416; FR 2762394 A1 FR 1997-4923 19970416;
AU 9874362 A AU 1998-74362 19980416; EP 975968 A2 EP 1998-921550 19980416, WO 1998-FR772 19980416
FDT AU 9874362 A Based on WO 9847000; EP 975968 A2 Based on WO 9847000
PRAI FR 1997-4923 19970416
AN 1998-568870 [48] WPIDS
AB WO 9847000 A UPAB: 19981210
A target biological material (A) in a sample is detected by the following process: (A) is contacted with a capture phase (B), in microparticulate or linear form, comprising a first particulate or linear **polymer** having apparent **hydrophilic** character and **complexing** groups linked by **co**-ordination to a first **transition metal**, which is itself linked to a first biological entity which specifically recognises (A). The **complex** (A:B) is then detected.

In a preferred modification of the process, a detection phase (C) is also used comprising, in microparticulate or linear form, a second particulate or linear **polymer** having apparent **hydrophilic** character and second **complexing** groups, these being **co**-ordinated to a second **transition metal** linked to a second biological entity capable of recognising the target (A) specifically, and a marker.

The capture phase (B) is also claimed per se, as is the detection phase (C).

USE - The target material may be proteic or glycoproteic, such as an antigen, haptene, antibody, protein, peptide, enzyme, substrate, and their fragments, or it may be nucleic, such as DNA, RNA, a nucleic acid fragment, a hormone, etc. The detection of antibodies using p24 or gp140 proteins of HIV is specifically mentioned.

Dwg.0/3

L34 ANSWER 9 OF 12 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
AN 1997-121144 [12] WPIDS
DNN N1997-099709 DNC C1997-039285
TI Novel electron conducting compsn. in paste form - comprises conducting paste, electrodes, sensors and electrochemical reactors.
DC A85 B04 D16 J04 L03 S03
IN DOMINGUEZ, CANAS E; KATAKIS, I; NARVAEZ, GARCIA A; PARELLADA, FERRER J
PA (UYRO-N) UNIV ROVIRA I VIRGILI SERVEI TECNOLOGIA; (UYAL-N) UNIV ALCALA DE HENARES; (UYRO-N) UNIV ROVIRA Y VIRGILI
CYC 5
PI EP 757246 A2 19970205 (199712)* EN 20p
R: DE FR GB SE
EP 757246 A3 19970502 (199729)
ES 2103197 A1 19970816 (199740)
ES 2103197 B1 19980116 (199810)
ADT EP 757246 A2 EP 1996-500113 19960802; EP 757246 A3 EP 1996-500113 19960802; ES 2103197 A1 ES 1995-1590 19950804; ES 2103197 B1 ES 1995-1590 19950804
PRAI ES 1995-1590 19950804
AN 1997-121144 [12] WPIDS
AB EP 757246 A UPAB: 19970320
An electron conducting compsn. in paste form comprises a particulate conducting material that maintains its integrity by a **polymeric** binding material included in a quantity of at least 10% total wt. of the compsn. in a matrix that may also be modified to contain chemical or biochemical recognition elements and/or electrochemical mediators and opt.
a crosslinker. The crosslinking agent is selected from e.g. bi- or multi-functional substances, hetero- or homofunctional, that can easily react with the binding **polymer** functionalities in organic or aq. solvents. The functionalities include bi- or multifunctional aziridines, di- or multi-epoxides, etc. The electrochemical redox mediator is selected
from e.g. metal **complexes**, low mol. wt. electron transfer proteins, quinoids, phenazine-type substances and redox **polymers**, having a redox potential of -0.7 and 0.5V vs the saturated calomel electrode. The chemical recognition element is an ion selective cocktail or a metal **complex** capable of catalysing analyte reactions. The biorecognition element is e.g. antibodies, hormones, enzymes, oligo and **polynucleotides**, cellular receptors and pref. oxidoreductase enzyme. The element is modified covalently with a mediator, or with gps. giving stability or cross-linking functionality or with fluorescent or enzymatic labels.
The **polymer** is **hydrophilic**, soluble in water or aq. solvents, mol. wt. is 10-500 kDa, it is a **polyethyleneimine** branched or linear, opt. derivatised, or a **poly**(vinylpyridine) **polymer** opt. quaternised with amine gps. It can also be a hydrophobic **polymer** opt. contain functionalities that increase hydrophobicity and opt. contg. a protein or **polypeptide** soluble in aq. solvents and water (mol. wt. 10-1000 kDa). The **hydrophilic polymer** should allow crosslinking of the **polymeric** binding substance and conducting phase (e.g. amines, carboxylic acids, alcohols, anhydrides and aldehydes), etc. The particulate conducting material is selected from (A) a carbon-based material, opt. modified to

include functionalities; (B) metal particles selected from gps. IB and VIII of the periodic table, (pref. silver, **gold**, **iron**, **cobalt**, **nickel** and/or **platinum**), or metallic oxide particles selected from ruthenium oxide and/or tin oxide; (C) metalised carbon particles or (D) combinations of A-C.

USE - The compsn. is used for detection and analysis of analytes, for monitoring of analytes and in the electrochemical prodn. of various prods. and synthesis intermediates. The electrodes and sensors can be used to detect and quantify cpds. and ions in **samples** and has **analytical** applications in basic research and clinical diagnosis and environmental and fermentation monitoring. The conducting paste can be used for processing of solid-phase electro-extn., in the electrochemical prodn. of chemical prods. and in the control of industrial fermentations.

ADVANTAGE - The method is a low-cost alternative to other techniques. It is reliable and convenient and achieves the high current density needed. The electrodes are stable under operating and storage conditions.

Dwg.1a/9

L34 ANSWER 10 OF 12 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
AN 1994-007718 [01] WPIDS
DNN N1994-006230
TI Antibody-based bio-sensor for on-line real-time measurement - has immobilised binding partner consisting of antibody or **polypeptide** antigen binding fragment and support, and detects change in surface plasmon resonance refractive index..
DC S03
IN MALMQVIST, M; WINTER, G P
PA (PHAA) PHARMACIA BIOSENSOR AB; (BIAC-N) BIACORE AB
CYC 19
PI WO 9325909 A1 19931223 (199401)* EN 26p
RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE
W: JP US
EP 645015 A1 19950329 (199517) EN 2p
R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE
JP 07507865 W 19950831 (199543) 1p
EP 645015 B1 19970305 (199714) EN 15p
R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE
DE 69308554 E 19970410 (199720)
US 5965456 A 19991012 (199949)
ADT WO 9325909 A1 WO 1993-GB1242 19930611; EP 645015 A1 EP 1993-913345 19930611, WO 1993-GB1242 19930611; JP 07507865 W WO 1993-GB1242 19930611, JP 1994-501280 19930611; EP 645015 B1 EP 1993-913345 19930611, WO 1993-GB1242 19930611; DE 69308554 E DE 1993-608554 19930611, EP 1993-913345 19930611, WO 1993-GB1242 19930611; US 5965456 A Cont of WO 1993-GB1242 19930611, Cont of US 1995-351300 19950227, US 1997-848175 19970429
FDT EP 645015 A1 Based on WO 9325909; JP 07507865 W Based on WO 9325909; EP 645015 B1 Based on WO 9325909; DE 69308554 E Based on EP 645015, Based on WO 9325909
PRAI GB 1992-12416 19920611
AN 1994-007718 [01] WPIDS
AB WO 9325909 A UPAB: 19991201
The appts. includes an LED (10) transmitting light through a collimator (12), a focussing lens (14) and a prism (16) to the surface of a sensor chip (18). Light exits the prism and passes through an objective lens (20), cylindrical lens (22), and a plane polariser (24) before falling on a photodetector (26).

In operation, the sensor chip acts as an immobilised binding partner comprising a glass support coated with a thin **gold** film. A flexible **hydrophilic polymer** is bound to the **gold** and extends into the flow channel. An antibody is coupled to the **polymer** and reacts with the **analyte** of interest in the **sample** passing through the flow channel.

ADVANTAGE - Detects quantitatively analyte in concn. range 10-200 nm with reversible fast response time of about 25 seconds.

Dwg.1a/8
ABEQ EP 645015 B UPAB: 19970407
Apparatus for detecting the presence in solution of an **analyte** of interest in a **sample**, comprising an immobilised binding partner comprising a solid support and a reversibly binding receptor which is capable of bonding to the analyte of interest thereby causing a

measurable change in a property of the immobilised binding partner, and detection means for detecting the measurable change said reversibly binding receptor having a dissociation rate constant of greater than 10(-2) per second and the half-life of the receptor/analyte **complex** being less than or equal to 60 seconds, thereby allowing the apparatus to respond rapidly to changes in analyte concentration. Dwg.1a/6

L34 ANSWER 11 OF 12 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
AN 1992-034238 [05] WPIDS
DNN N1992-026154 DNC C1992-014889
TI Detection of reaction partners in solid phase immunoassay - uses, as surfactant, **polyoxyethylene polyoxypropylene** block copolymer obtd. by chromatographic sepn. of commercial block copolymer.
DC A89 B04 D16 J04 S03
IN GRIESSER, H W; KLEIN, C; KOBOLD, U; SLUKA, P; GRIESSER, H
PA (BOEF) BOEHRINGER MANNHEIM GMBH
CYC 15
PI EP 468481 A 19920129 (199205)*
R: AT BE CH DE ES FR GB GR IT LI LU NL SE
DE 4023671 A 19920130 (199206)
JP 04232858 A 19920821 (199242) 6p
US 5248620 A 19930928 (199340) 6p
ADT DE 4023671 A DE 1990-4023671 19900725; JP 04232858 A JP 1991-179098 19910719; US 5248620 A US 1991-720305 19910625
PRAI DE 1990-4023671 19900725
AN 1992-034238 [05] WPIDS
AB EP 468481 A UPAB: 19931006
Determn. of a partner in an immune reaction using immunoassay in which one of the reaction partners is in the solid phase comprises using, as the surfactant, a **polyethylene** oxide **polypropylene** oxide block copolymer of formula HO(CH2CH2O)a(CHMeCH2O)b (CH2CH2O)aH (I) which exhibits, in 1 % aq. soln. (wt./vol) a surface tension of at least 45 mM/m and in which the molar ratio of ethylene oxide to propylene oxide gps. (i.e. (2a/b) is at least 5.8. a = 40-150; b = 10-50; ratio 2a/b is at least 5.8.

USE/ADVANTAGE - (I) are low-foaming surfactants which inhibit unspecific reciprocal effects between certain components of the sample (plasma) and the surface of the reaction vessel and simultaneously does not dissolve the heterogeneous reaction partner, i.e. the one adsorbed on the surface.

0/1

ABEQ US 5248620 A UPAB: 19931129
**Determining analyte** in a **sample** comprises (i) mixing with a specific binding partner of the analyte immobilised on a solid phase in the presence of a surfactant, which comprises at least one **polyethylene** oxide-**polypropylene** oxide block copolymer of formula

HO(CH2CH2O)a(CH(Me)CH2Ob(CH2CH2O)aH

where a is 40-150 and bis 1-=50 to form a **hydrophilic** block copolymer having a surface tension of at least 45 **mn**/m in at 1% aq. soln., and as are molecular ratio of ethylene oxide to propylene oxide gps. (2a//b) of at least 5.8; and (ii) detecting the **complex** on a solid support.

USE/ADVANTAGE - In immunological assays partic. for determining luteinising hormone or follicle stimulating hormone.

Dwg.0/1

L34 ANSWER 12 OF 12 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
AN 1988-022872 [04] WPIDS
DNN N1988-017366 DNC C1988-010068
TI Integral multilayer analytical element - includes spreading action controller and/or acid to inhibit migration of water-soluble indicator.
DC A96 B04 J04 S03
IN FUMINORI, A; KAORU, T; MITSUTOSHI, T; NAKATSUGU, Y
PA (FUJF) FUJI PHOTO FILM CO LTD
CYC 5
PI EP 254202 A 19880127 (198804)* EN 14p
R: DE GB
JP 63021553 A 19880129 (198810)
JP 63025556 A 19880203 (198811)
US 4871679 A 19891003 (198949) 7p
US 4966784 A 19901030 (199046)
EP 254202 B 19910918 (199138)
R: DE GB
DE 3773073 G 19911024 (199144)
JP 06019354 B2 19940316 (199414) 6p
JP 07013635 B2 19950215 (199511) 7p
ADT EP 254202 A EP 1987-110240 19870715; JP 63021553 A JP 1986-164570 19860715; JP 63025556 A JP 1986-168091 19860718; US 4871679 A US 1987-73759 19870715; US 4966784 A US 1989-339015 19890414; JP 06019354 B2 JP 1986-168091 19860718; JP 07013635 B2 JP 1986-164570 19860715
FDT JP 06019354 B2 Based on JP 63025556; JP 07013635 B2 Based on JP 63021553
PRAI JP 1986-164570 19860715; JP 1986-168091 19860718
AN 1988-022872 [04] WPIDS
AB EP 254202 A UPAB: 19930923
A method of prepg. an integral multilayer analytical element comprising a water-impermeable, light-transmissive support, a reagent layer (RL) contg.
a water-soluble indicator (I) capable of reacting with an analyte to produce an optically detectable change and a porous spreading layer (SL) contg. a spreading action controller (II), superposed in this order, comprises providing the SL on the RL, incorporating a soln. into the SL, the soln. provided by dissolving (II) in an organic solvent which does not
dissolve (I), and drying the soln. to remove the organic solvent from the SL.

Specifically (II) may be a **hydrophilic polymer** e.g. PVP, **polyvinyl** alcohol, **polyacrylic** acid, methyl cellulose or ethyl cellulose or a nonionic surfactant e.g. **polyhydric** alcohol ester ethylene oxide adducts, **polyethylene** glycol monoesters, **polyethylene** glycol diesters, alkylphenol ethylene oxide oxides or higher fatty acid alkanol amides. The solvent is e.g. MeO, EtOH, PrOH, BuOH or i-PrOH. Suitable (I) are o-Cresolphthalein **Complexone**, Arsenazo-III and chlorophosphonazo-III. When calcium is the analyte, (II) may be replaced by an acid capable of decomposing the calcium cpds. in a sample, e.g. acetic acid.

USE/ADVANTAGE - Migration of (I) can be inhibited using (II) and/or acid so that analytical accuracy of the element is improved. The element can be used to detect analytes such as calcium, **magnesium**, inorganic phosphorus and **iron** in biological fluids, foods,

drinks, liquors and medicines.
0/0

ABEQ EP 254202 B UPAB: 19930923
A method of prepg. an integral multilayer analytical element comprising a water-impermeable, light-transmissive support, a reagent layer (RL) contg.
a water-soluble indicator (I) capable of reacting with an analyte to produce an optically detectable change and a porous spreading layer (SL) contg. a spreading action controller (II), superposed in this order, comprises providing the SL on the RL, incorporating a soln. into the SL, the soln. provided by dissolving (II) in an organic solvent which does not
dissolve (I), and drying the soln. to remove the organic solvent from the SL.
Specifically (II) may be a **hydrophilic polymer** e.g. PVP, **polyvinyl** alcohol, **polyacrylic** acid, methyl cellulose or ethyl cellulose or a nonionic surfactant e.g. **polyhydric** alcohol ester ethylene oxide adducts, **polyethylene** glycol monoesters, **polyethylene** glycol diesters, alkylphenol ethylene oxide oxides or higher fatty acid alkanol amides. The solvent is e.g. MeO, EtOH, PrOH, BuOH or i-PrOH. Suitable (I) are o-Cresolphthalein **Complexone**, Arsenazo-III and chlorophosphonazo-III. When calcium is the analyte, (II) may be replaced by an acid capable of decomposing the calcium cpds. in a sample, e.g. acetic acid.
USE/ADVANTAGE - Migration of (I) can be inhibited using (II) and/or acid so that analytical accuracy of the element is improved. The element can be used to detect analytes such as calcium, **magnesium**, inorganic phosphorus and **iron** in biological fluids, foods, drinks, liquors and medicines.
0/0

ABEQ US 4871679 A UPAB: 19930923
Multilayered analytical device for the determination of calcium cpds. comprises a water-impermeable, optically transparent substrate coated with
a reagent layer contg. a water-soluble substance which gives an optical change on reaction with Ca2+ ions; opt. an intermediate layer contg. a buffer agent; and then a porous spreading layer contg. acid.
USE - The prods. facilitate the rapid **determination** of calcium in **biological** fluids, e.g. blood, cerebrospinal fluid, lymph, saliva and urine for clinical diagnosis.
0/0

ABEQ US 4966784 A UPAB: 19930923
Prepn. of an integral multilayer analytical element for analysis of Ca cpds. is claimed, comprising (i) a water-impermeable light-transmissive support; (ii) a reagent layer contg. a water-soluble indicator which can react with Ca to produce an optically detectable change, and (iii) a porous spreading layer contg. an acid which decomposes the Ca cpds. in a sample. Process comprises (a) dissolving the acid in an organic solvent which does not dissolve the water-soluble indicator; (b) incorporating this soln. into the porous spreading layer; and (c) drying the layer. The
element contains a pH buffer which can maintain the pH of the reaction with the indicator at its optimum pH incorporated in the reagent layer or

an intermediate layer between layers (ii) and (iii). ADVANTAGE - Effective decomposition of Ca cpds. in a sample and effective colouration can be achieved.

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=> d his

     (FILE 'HOME' ENTERED AT 10:15:10 ON 26 JAN 2001)

     FILE 'HCAPLUS' ENTERED AT 10:15:22 ON 26 JAN 2001
L1            59 S ELAISSARI A?/AU
L2            13 S DURACHER D?/AU
L3           186 S PICHOT C?/AU
L4            63 S MALLET F?/AU
L5           772 S NOVELLI?/AU
L6             1 S L1 AND L2 AND L3 AND L4 AND L5
                 SELECT RN L6 1

     FILE 'REGISTRY' ENTERED AT 10:16:28 ON 26 JAN 2001
L7            17 S E1-17

     FILE 'HCAPLUS' ENTERED AT 10:16:42 ON 26 JAN 2001
L8             1 S L6 AND L7
L9            54 S (DETN OR DETERMIN? OR ANALY? OR DETECTION)(4A)(SAMPLE OR
BIOL
L10         1464 S (DETN OR DETERMIN? OR ANALY? OR DETECTION) AND COMPLEX? AND
H
L11          157 S L10 AND (TRANSITION METAL OR ZINC OR ZN OR NICKEL OR NI OR
CO
L12          198 S L10 AND (COBALT OR CO OR IRON OR FE)
L13          104 S L10 AND (MAGNESIUM OR MG OR MANGANESE OR MN)
L14           93 S L10 AND (LEAD OR PB OR PALLADIUM OR PD)
L15           49 S L10 AND (PLATINUM OR PT OR GOLD OR AU)
L16          414 S L11-L15

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     FILE 'HCAPLUS' ENTERED AT 11:08:34 ON 26 JAN 2001
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L17           SEL L16 1- RN :    2595 TERMS
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L18         2591 S L17
L19          242 S L18 AND PMS/CI

     FILE 'HCAPLUS' ENTERED AT 11:11:01 ON 26 JAN 2001
L20          113 S (L11-L15) AND L19
                 E DETER/CV
                 E DETERMIN/CV
                 E DETERMIN/IT
                 E DETERMINATION/IT
L21       798794 S DETERMINATION/IT
L22           21 S L20 AND L21
L23           55 S L20 AND (ANALY? OR DETN OR DETECT?)/IT
L24           55 S L22 OR L23
L25           17 S L9 AND (L11-L15)
L26           13 S L25 NOT L24
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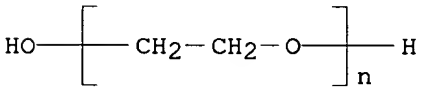
     FILE 'WPIDS' ENTERED AT 11:52:02 ON 26 JAN 2001
L27           36 S L9
L28            8 S L27 AND (TRANSITION METAL OR ZINC OR ZN OR NICKEL OR NI )
L29           10 S L27 AND ((COBALT OR CO OR IRON OR FE OR COPPER OR CU))
L30            5 S L27 AND  (MAGNESIUM OR MG OR MANGANESE OR MN)
L31            5 S L27 AND   (LEAD OR PB OR PALLADIUM OR PD)
L32            5 S L27 AND  (PLATINUM OR PT OR GOLD OR AU)
L33           18 S L28-L32
L34           12 S L33 AND (POLY? OR POLYMER?)
```

L24 ANSWER 1 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 2000:489532 HCAPLUS
DN 133:71118
TI The synthesis of fluorescent semiconductor labels for affinity molecules
IN Bawendi, Moungi G.; Sundar, Vikram C.; Mikulec, Frederick V.
PA Massachusetts Institute of Technology, USA
SO Brit. UK Pat. Appl., 78 pp.
CODEN: BAXXDU
DT Patent
LA English
FAN.CNT 4

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| PI GB 2342651 | A1 | 20000419 | GB 1999-22072 | 19990917 |
| PRAI US 1998-100947 | | 19980918 | | |
| US 1998-160545 | | 19980924 | | |

AB The invention concerns a fluorescent semiconductor nanocrystal used as a tag or label for a biol. mol. which is preferably a member of a specific binding pair such as avidin, biotin, antibody, antigen or an oligonucleotide. The nanocrystal-tagged binding members may be used in assays to detect target **analytes** and particularly in multiplex assays where a plurality of **analytes** are simultaneously detected by the use of differently tagged binding members, the different nanocrystal label having emission spectra that are distinct from each other. Thus a CdSe core coated with **ZnS** and capped with trioctylphosphine oxide (TOPO) was prepd. in a reaction using trioctylphosphine (TOP), di-Me cadmium, and di-Et **zinc**. The nanocrystal structure was made water sol. with the addn. of mercaptoundecanoic acid and was used as a label for avidin. Thus, biotin-thiol and biotin-amine nanocrystal **complexes** are prepd.

IT **25322-68-3**, Polyethylene glycol
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(the synthesis of fluorescent semiconductor labels for affinity mols.)
RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



IT **9013-20-1**, Streptavidin
RL: RCT (Reactant)
(the synthesis of fluorescent semiconductor labels for affinity mols.)
RN 9013-20-1 HCAPLUS
CN Streptavidin (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L24 ANSWER 2 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 1999:819529 HCAPLUS
DN 132:60102
TI Nucleic acid-coupled colorimetric **analyte** detectors using self-assembling polydiacetylenic materials
IN Charych, Deborah H.; Jonas, Ulrich
PA Regents of the University of California, USA
SO PCT Int. Appl., 176 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

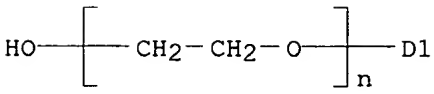
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| PI WO 9967423 | A1 | 19991229 | WO 1999-US14029 | 19990622 |
| W: AU, CA, JP | | | | |
| RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| AU 9947047 | A1 | 20000110 | AU 1999-47047 | 19990622 |

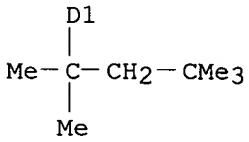
PRAI US 1998-90266 19980622
WO 1999-US14029 19990622

AB The present invention relates to methods and compns. for the direct **detection** of **analytes** and membrane conformational changes through the **detection** of color changes in biopolymeric materials. In particular, the present invention provides for the direct colorimetric **detection** of **analytes** using nucleic acid ligands at surfaces or polydiacetylene liposomes and related mol. layer systems. Synthetic schemes are provided for the prepn. and immobilization of polydiacetylenic materials with various head groups.

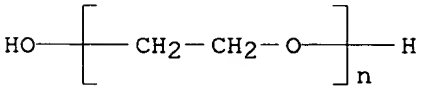
IT **9036-19-5**, Octoxynol **25322-68-3 34344-66-6**, Polysorbic acid
RL: MOA (Modifier or additive use); USES (Uses)
(dopant for biopolymeric materials; nucleic acid-coupled colorimetric **analyte detectors** using self-assembling polydiacetylenic materials)

RN 9036-19-5 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy- (9CI) (CA INDEX NAME)





RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)

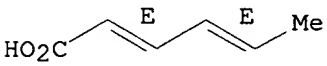


RN 34344-66-6 HCAPLUS
CN 2,4-Hexadienoic acid, (2E,4E)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 110-44-1
CMF C6 H8 O2
CDES 2:E,E

Double bond geometry as shown.



IT **9001-86-9**, Phospholipase C **9002-61-3**, Chorionic gonadotropin
RL: ANT (Analyte); ANST (Analytical study)
(nucleic acid-coupled colorimetric **analyte detectors** using self-assembling polydiacetylenic materials)
RN 9001-86-9 HCAPLUS
CN Phospholipase C (9CI) (CA INDEX NAME)

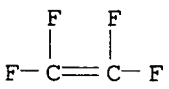
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 9002-61-3 HCAPLUS

CN Gonadotropin, chorionic (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IT **9002-84-0**, Teflon **9002-88-4**, POlyethylene
**9003-53-6**, Polystyrene **9012-36-6**, Sepharose
**9014-76-0**, Sephadex **25014-41-9D**, Polyacrylonitrile,
compds.
RL: DEV (Device component use); USES (Uses)
(solid support; nucleic acid-coupled colorimetric **analyte detectors** using self-assembling polydiacetylenic materials)
RN 9002-84-0 HCAPLUS
CN Ethene, tetrafluoro-, homopolymer (9CI) (CA INDEX NAME)

CM 1

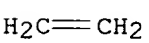
CRN 116-14-3
CMF C2 F4



RN 9002-88-4 HCAPLUS
CN Ethene, homopolymer (9CI) (CA INDEX NAME)

CM 1

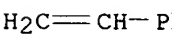
CRN 74-85-1
CMF C2 H4



RN 9003-53-6 HCAPLUS
CN Benzene, ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 100-42-5
CMF C8 H8



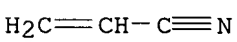
RN 9012-36-6 HCAPLUS
CN Agarose (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 9014-76-0 HCAPLUS
CN Sephadex (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 25014-41-9 HCAPLUS
CN 2-Propenenitrile, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 107-13-1
CMF C3 H3 N



RE.CNT 9
RE
(1) Arnold; US 5616790 A 1997 HCAPLUS
(2) Arnold; US 5837202 A 1998 HCAPLUS
(3) Gold; US 5475096 A 1995 HCAPLUS
(4) McGall; US 5412087 A 1995 HCAPLUS
(6) Offenbacher; US 5928918 A 1999 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 3 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 1999:806435 HCAPLUS
DN 132:68919
TI **Determination** of Ag(I), Hg(II), **Cu**(II), **Pb** (II), Cd(II) by stripping voltammetry in aqueous solutions using **complexing** polymers in conjunction with membrane filtration
AU Osipova, E. A.; Sladkov, V. E.; Kamenev, A. I.; Shkinev, V. M.; Geckeler, K. E.
CS Department of Chemistry, Moscow State University, Moscow, 119899, Russia
SO Anal. Chim. Acta (2000), 404(2), 231-240
CODEN: ACACAM; ISSN: 0003-2670
PB Elsevier Science B.V.
DT Journal
LA English
AB The electrochem. behavior of a series of metal ions (Ag+, Hg2+, Cu2+, Pb2+, Cd2+) and the ternary Cu2+-Pb2+-Cd2+ system in solns. of water-sol. **complexing** polymers poly(ethylenimine) (PEI), poly(1-vinyl-2-pyrrolidone) (PVP), and their thiourea-contg. derivs. poly(ethylenimine)methylthiourea (PEI-TU) and poly(1-vinyl-2-pyrrolidone)methylthiourea (PVP-TU), was studied using cyclic and anodic stripping voltammetry (ASV) at different C electrodes. Optimum conditions were selected for the stripping voltammetric **detn**. of Ag+, Hg2+, Cu2+, Pb2+, and Cd2+ in a concn. range from 10-6 to 10-5 M in the presence of water-sol. polymers at the C-paste electrode (relative std. deviation was <10%). The stability of metal **complexes** with PEI decreased in the following order: Hg2+ > Cu2+ > Ag+ > Cd2+ > Pb2+. The **hydrophilic** polymer, PEI, reduced the intermetallic interactions of components of the Cu2+-Pb2+-Cd2+ ternary system on the electrode surface. The different **complex** stabilities of Pb2+, Cd2+, and Cu2+ with PEI allowed **detn**. of Pb2+ and Cd2+ in the presence of a larger excess of Cu2+ (100/1 and 10/1, resp.) vs. a procedure without PEI (10/1 and 0.33/1, resp.). Conditions were optimized for the simultaneous stripping voltammetric **detn**. of the components of the divalent Pb2+-Cu2+-Cd2+ system in 2% aq. solns. of PEI. The possibility of **detg**. Cu2+ and Pb2+ in tap water after pre-concn. as PEI **complexes** using membrane filtration was demonstrated.
IT **9002-98-6**, Poly(ethylenimine) **9003-39-8**, Poly(1-vinyl-2-pyrrolidone)
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(**complexing** polymer; metal ion **detn**. in water-sol. **complexing** polymer solns. by cyclic and anodic stripping voltammetry in conjunction with membrane filtration)
RN 9002-98-6 HCAPLUS
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

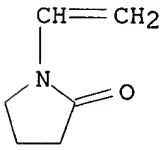
CM 1

CRN 151-56-4
CMF C2 H5 N

RN 9003-39-8 HCAPLUS
CN 2-Pyrrolidinone, 1-ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 88-12-0
CMF C6 H9 N O



IT **9002-98-6D**, thiourea deriv., methylated **9003-39-8D**,
Poly(1-vinyl-2-pyrrolidone), thiourea deriv., methylated
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(metal ion **detn.** in water-sol. **complexing** polymer
solns. by cyclic and anodic stripping voltammetry in conjunction with
membrane filtration)
RN 9002-98-6 HCAPLUS
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

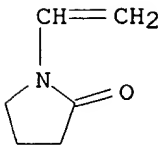
CM 1

CRN 151-56-4
CMF C2 H5 N

RN 9003-39-8 HCAPLUS
CN 2-Pyrrolidinone, 1-ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 88-12-0
CMF C6 H9 N O



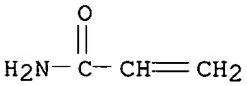
RE.CNT 14
RE
(3) Brainina, K; J Electroanal Chem 1979, V99, P1 HCAPLUS
(5) Brainina, K; Talanta 1971, V18, P513 HCAPLUS
(7) Geckeler, K; Anal Chim Acta 1986, V189, P285 HCAPLUS
(8) Geckeler, K; Angew Makromol Chem 1987, V155, P151 HCAPLUS
(9) Geckeler, K; Pure Appl Chem 1980, V52, P1883 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d bib abs hitstr 4-9

L24 ANSWER 4 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 1999:670449 HCAPLUS
DN 132:32811
TI High-Resolution Capillary Isoelectric Focusing of **Complex** Protein Mixtures from Lysates of Microorganisms
AU Shen, Yufeng; Xiang, Fan; Veenstra, Timothy D.; Fung, Eliza N.; Smith, Richard D.
CS Environmental Molecular Sciences Laboratory, Pacific Northwest National Laboratory, Richland, WA, 99352, USA
SO Anal. Chem. (1999), 71(23), 5348-5353
CODEN: ANCHAM; ISSN: 0003-2700
PB American Chemical Society
DT Journal
LA English
AB High-resoln. capillary isoelec. focusing sepns. of **complex** protein mixts. have been obtained for cellular lysates of Saccharomyces cerevisiae, Eschericia coli, and Deinococcus radiodurans. High quality sepns. are shown to be achievable for total protein concns. of <0.1 **mg**/mL. The sepn. reproducibility was examd., and the influence of the capillary inner wall coating on resoln. investigated using fused-silica capillaries coated with various **hydrophilic** polymers including hydroxypropyl cellulose, poly(vinyl alc.), and linear polyacrylamide. Proteins having an isoelec. point (pI) difference of 0.004 are shown to be sepd. using a linear carrier ampholyte (linear pH gradient between two electrodes) of 3-10. Approx. 45 discrete peaks in the pI range of 5-7 were obtained for S. cerevisiae, .apprx.80 peaks in the pI range of 4.5-8.5 for E. coli, and .apprx.210 peaks in the pI range of 3-8.8 for D. radiodurans.
IT **9003-05-8**, Polyacrylamide.
RL: ANT (Analyte); PEP (Physical, engineering or chemical process); ANST (Analytical study); PROC (Process)
(high-resoln. capillary isoelec. focusing of **complex** protein mixts. from lysates of microorganisms)
RN 9003-05-8 HCAPLUS
CN 2-Propenamide, homopolymer (9CI) (CA INDEX NAME)

CM 1

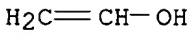
CRN 79-06-1
CMF C3 H5 N O



IT **9002-89-5**, Poly(vinyl alcohol)
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)
(high-resoln. capillary isoelec. focusing of **complex** protein mixts. from lysates of microorganisms)
RN 9002-89-5 HCAPLUS
CN Ethenol, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 557-75-5
CMF C2 H4 O

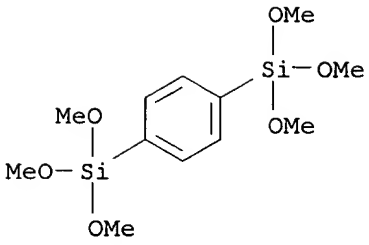


RE.CNT 17
RE
(1) Bradford, M; Anal Biochem 1976, V72, P248 HCAPLUS
(3) Conti, M; J Chromatogr A 1997, V757, P237 HCAPLUS
(4) Delinger, S; Anal Chem 1990, V62, P436 HCAPLUS
(6) Hjerten, S; J Chromatogr 1985, V346, P265 HCAPLUS
(8) O'Farrell, P; J Biol Chem 1975, V250, P4007 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 5 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 1999:255098 HCAPLUS
DN 131:130553
TI Influence of kinetic parameters on the textural and chemical properties of silsesquioxane materials obtained by sol-gel process
AU Cerveau, Genevieve; Corriu, Robert J. P.; Fischmeister-Lepeytre, Cedric
CS Laboratoire de Chimie Moleculaire et Organisation du Solide, UMR 5637, Case Courrier, Universite Montpellier II, Montpellier, Fr.
SO J. Mater. Chem. (1999), 9(5), 1149-1154
CODEN: JMACEP; ISSN: 0959-9428
PB Royal Society of Chemistry
DT Journal
LA English
AB The hydrolytic sol-gel polymn. of a 'rigid' mol. precursor 1,4-C6H4[Si(OMe)3]2 (1) and a more 'flexible' one, 1,4-C6H4[CH2CH2Si(OMe)3]2 (2), was investigated by varying the exptl. conditions. Two solvents, MeOH and THF, were employed. The influence of the catalyst has been **detd**. by using TBAF (tetrabutylammonium fluoride) or NH4F as nucleophilic catalysts, NH4OH and NaOH as basic catalysts and HCl as acid catalyst. The effect of concn. of the precursor was also studied. Mol. precursor 1 led always to **hydrophilic** solids with similar degrees of condensation (63-67%). In all cases, high sp. surface areas and poor chem. reactivity towards Cr(**CO**)6 were obsd. and the solvent had an influence on the porosity. By contrast, the precursor 2 led to hydrophobic solids and the texture, the degree of condensation and the reactivity with Cr(**CO**)6 were strongly dependent on the solvent, the catalyst and the concn. In MeOH, no significant sp. surface areas were obsd., whereas in THF a high sp. surface area was obsd. with TBAF catalysis at both precursor concns. studied. Degrees of condensation were higher in THF. All the kinetic parameters involved in the hydrolytic sol-gel polymn. of mol. organosilicon precursors were of importance on the properties of the resulting solids, the main factor being the geometry of the org. unit.
IT **167114-68-3P**, 1,4-Bis(trimethoxysilyl)benzene homopolymer
**167114-69-4P**, 1,4-Bis[2-(trimethoxysilyl)ethyl]benzene homopolymer
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(effect of catalysts, solvents, and kinetic parameters on textural and chem. properties of silsesquioxane materials obtained by sol-gel process)
RN 167114-68-3 HCAPLUS
CN Silane, 1,4-phenylenebis[trimethoxy-, homopolymer (9CI) (CA INDEX NAME)

CM 1

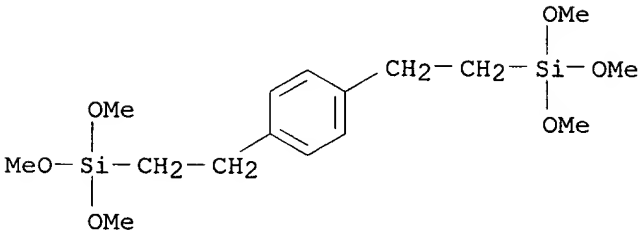
CRN 90162-40-6
CMF C12 H22 O6 Si2



RN 167114-69-4 HCAPLUS
CN Silane, (1,4-phenylenedi-2,1-ethanediyl)bis[trimethoxy-, homopolymer (9CI)
(CA INDEX NAME)

CM 1

CRN 60354-74-7
CMF C16 H30 O6 Si2



RE.CNT 38
RE
(1) Audebert, P; J Electroanal Chem 1994, V372, P275 HCAPLUS
(2) Audebert, P; J Electroanal Chem 1996, V413, P89 HCAPLUS
(5) Battioni, P; Chem Commun 1996, P2037 HCAPLUS
(6) Bezombes, J; J Mater Chem 1998, V8, P1749 HCAPLUS
(9) Carr, S; J Mater Chem 1997, V7, P865 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 6 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 1999:96435 HCAPLUS
DN 130:118817
TI Low **detection** limit ion selective membrane electrodes
IN Sokalski, Tomasz; Pretsch, Erno
PA Orion Research, Inc., USA
SO PCT Int. Appl., 24 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | WO 9905515 | A1 | 19990204 | WO 1998-US15217 | 19980723 |
| | W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| | RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG | | | | |
| | AU 9886605 | A1 | 19990216 | AU 1998-86605 | 19980723 |
| | EP 1023589 | A1 | 20000802 | EP 1998-937983 | 19980723 |
| | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI | | | | |
| | US 6126801 | A | 20001003 | US 1998-121383 | 19980723 |
| PRAI | US 1997-53665 | 19970724 | | | |
| | US 1997-57287 | 19970829 | | | |
| | WO 1998-US15217 | 19980723 | | | |

AB The invention is an ion-selective solvent polymeric or liq. membrane electrode constructed to extend the measuring range at the lower end by at least six orders of magnitude. Membranes based on a neutral ionophore can be used, as can a charged ionophore, or an ion-exchanger. Low **detection** limits are achieved by maintaining a very low and const. concn. of the primary ion and a sufficiently high concn. of an interfering ion in the internal ref. soln. The low and const. concn. of the primary ion is either adjusted with the help of a soln. of a **hydrophilic** ion buffer such as ethylenediamine tetraacetic acid or by adding an excess of a salt of an ion which forms a sparingly sol. salt with the primary ion, such as NaI for the primary ion Ag+. With the new technique, ion-selective electrodes can be used, for the 1st time, for environmental monitoring of heavy metal ions such as Pb2+ and Cd2+ at the submicromolar level.

IT **9002-86-2**, PVC
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)
(metal ions **detn**. at submicromolar level in environmental samples and body fluids by ion selective membrane electrodes)

RN 9002-86-2 HCAPLUS

CN Ethene, chloro-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 75-01-4
CMF C2 H3 Cl

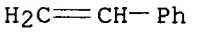
$H_2C{=}CH{-}Cl$

RE.CNT 2
RE
(1) Band; US 5395505 A 1995 HCAPLUS
(2) Yamashita; US 5472590 A 1995 HCAPLUS

L24 ANSWER 7 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 1998:790825 HCAPLUS
DN 130:147923
TI Preconcentration of trace As(V) with **iron**(III) **complex** of chelating resin having lysine-polyacetic acid moiety for its **determination** with ICP-AES
AU Matsunaga, Hideyuki; Yokoyama, Toshirou
CS Tohoku Natl. Ind. Res. Inst., Sendai, 983-8551, Japan
SO Bunseki Kagaku (1998), 47(12), 999-1004
CODEN: BNSKAK; ISSN: 0525-1931
PB Nippon Bunseki Kagakkai
DT Journal
LA Japanese
AB **Fe**(III)-bound chelating resins (**Fe**-LDA and **Fe**-LTA) with lysine-polycarboxylic acid functional groups have been prepd. and their adsorption characteristics for As(III) and As(V) examd. A relatively rapid adsorption of both **Fe** with LTA and As with **Fe**-LTA compared to LDA was obsd., whereas their adsorptivities were not as good as those with LDA, except for a wider pH range from 2 to 7 for the optimum adsorption. These are probably because of an excessive carboxylic functional group in LTA against LDA. The **hydrophilic** property of the carboxylic group may **lead** to a fast uptake of the metal ions with LTA, whereas it may block the site for the adsorption of As in the **Fe**-lysine **complex**. The preconcn. of trace As for **detn**. with ICP-AES was studied using column methods packed with **Fe**-LDA resin. At least a 10-8 mol/dm3 As(V) soln. was easily concd. to 1000 times with 1 g of **Fe**-LDA resin and a flow rate of 1 cm3/min, and was successfully **detd**. with ICP-AES without any hydride generation technique.
IT **9003-53-6DP**, Polystyrene, dimethylsulfonio derivs., reaction products with lysine derivs., **iron complexes**
RL: ARG (Analytical reagent use); IMF (Industrial manufacture); ANST (Analytical study); PREP (Preparation); USES (Uses)
(preconcn. of trace arsenic with **iron complex** of chelating resin for **detn**. by ICP-AES)
RN 9003-53-6 HCAPLUS
CN Benzene, ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

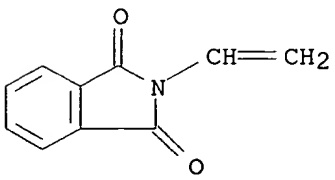
CRN 100-42-5
CMF C8 H8



L24 ANSWER 8 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 1998:777179 HCAPLUS
DN 130:75524
TI Hydrophobic interaction of **analytes** with permselective poly(N-vinyl amide) films on electrodes
AU Hofbauer, Michaela; Heineman, William R.; Kreishman, George P.; Steckhan, Eberhard
CS Kekule-Institut fuer Organische Chemie und Biochemie, Bonn, D-53121, Germany
SO Anal. Chem. (1999), 71(2), 399-406
CODEN: ANCHAM; ISSN: 0003-2700
PB American Chemical Society
DT Journal
LA English
AB The synthesis and properties of poly(N-vinyl amide) copolymer films made of N-vinylpyrrolidone (NVP) and N-vinylphthalimide (NVPH) are described. The films are cast as permselective layers with a thickness between 0.18 and 1.5 .mu.m onto spectroscopic graphite electrodes. The permselective properties of films of different thicknesses were studied with various charged and uncharged **hydrophilic** and hydrophobic **analytes** as probes using electrochem. methods. Although the poly(N-vinyl amide) films are uncharged, they show sufficient cond. for electrochem. measurements such as cyclic voltammetry. The main forces dominating the permselectivity of the copolymer films are hydrophobic interactions, which **lead** to a preferred preconcn. of neutral, hydrophobic **analytes** such as catechol in the film. Charged, **hydrophilic analytes** such as ascorbate or ruthenium hexaammine are rejected by the polymer film, so that their electrochem. signal is substantially attenuated at sufficiently large film thickness. The normalized selectivity ratio for catechol with respect to ascorbate reached a value of 57.
IT **28299-90-3P**, N-Vinylphthalimide-N-vinylpyrrolidone copolymer
RL: ARU (Analytical role, unclassified); DEV (Device component use); PEP (Physical, engineering or chemical process); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); PROC (Process); USES (Uses)
(hydrophobic interaction of **analytes** with permselective poly(N-vinyl amide) films on graphite electrodes)
RN 28299-90-3 HCAPLUS
CN 1H-Isoindole-1,3(2H)-dione, 2-ethenyl-, polymer with 1-ethenyl-2-pyrrolidinone (9CI) (CA INDEX NAME)

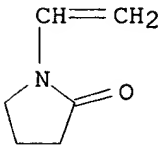
CM 1

CRN 3485-84-5
CMF C10 H7 N O2



CM 2

CRN 88-12-0
CMF C6 H9 N O



RE.CNT 25
RE
(2) Cheng, Q; Anal Chem 1995, V67, P2767 HCAPLUS
(3) Christie, I; Anal Chim Acta 1992, V269, P65 HCAPLUS
(4) Coury, L; Anal Chem 1988, V60, P553 HCAPLUS
(5) Cram, D; Top Curr Chem 1981, V98, P43 HCAPLUS
(6) Deakin, M; Anal Chem 1986, V58, P1474 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 9 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 1998:716219 HCAPLUS
DN 129:313117
TI Method and immunoassay assembly for the **detection** of biological materials using a capture phase with immobilized reagent
IN Elaissari, Abdelhamid; Duracher, David; Pichot, Christian; Mallet, Francois; Novelli-Rousseau, Armelle
PA Bio Merieux, Fr.
SO PCT Int. Appl., 25 pp.
CODEN: PIXXD2
DT Patent
LA French
FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| PI WO 9847000 | A2 | 19981022 | WO 1998-FR772 | 19980416 |
| WO 9847000 | A3 | 19990211 | | |
| W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG | | | | |
| FR 2762394 | A1 | 19981023 | FR 1997-4923 | 19970416 |
| FR 2762394 | B1 | 19990528 | | |
| AU 9874362 | A1 | 19981111 | AU 1998-74362 | 19980416 |
| EP 975968 | A2 | 20000202 | EP 1998-921550 | 19980416 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI | | | | |

PRAI FR 1997-4923 19970416
WO 1998-FR772 19980416

AB The invention concerns a method for isolating a target biol. material contained in a sample, consisting of the following steps: providing a capture phase, in microparticulate or linear form, consisting of at least a first particulate or linear polymer, with apparent **hydrophile** character and first **complexing** groups, the latter being bound by **co**-ordination to a first **transition metal**, which is itself bound to a first biol. entity capable of specifically recognizing the target biol. material; contacting said target biol. material with at least the capture phase; and detecting the capture phase-target biol. material **complex**, optionally with a **detection** phase, in microparticulate or linear form, and consisting of at least a second particulate or linear polymer, with apparent **hydrophile** character and second **complexing** groups, the latter being bound by **co**-ordination to a second **transition metal**, which is itself bound to a second biol. entity capable of specifically recognizing the target biol. material, and a marker. Markers are e.g. enzymes, fluorescent dyes, magnetic particles, antigens, heptanes, antibodies. Thus styrene-N-isopropylacrylamide copolymer was functionalized with 2-aminoethyl methacrylate; poly(N-isopropylacrylamide) was functionalized with maleic anhydride-methylvinylether copolymer and grafted to the

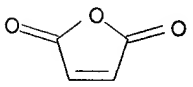
amino-group contg. polymer. Zn2+ was bound to the **complexation** groups and the recombinant protein RH24 with a histidine tag was immobilized to obtain the capturing phase.

IT **9011-16-9DP**, 2,5-Furandione, polymer with methoxyethene, reaction with poly(N-isopropylacrylamide) and graft polymer with styrene-N-isopropylacrylamide copolymer functionalized with 2-aminoethyl methacrylate **25189-55-3DP**, Poly(N-isopropylacrylamide), reaction with 2,5-furandione polymer with methoxyethene and graft polymer with styrene-N-isopropylacrylamide copolymer functionalized with 2-aminoethyl methacrylate **97381-57-2DP**, reaction with 2-Propenoic acid, 2-methyl-, 2-aminoethyl ester and grafted with poly(N-isopropylacrylamide) functionalized with 2,5-furandione polymer with methoxyethene
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(method and immunoassay assembly for **detection** of biol. materials using a capture phase with immobilized reagent)

RN 9011-16-9 HCAPLUS
CN 2,5-Furandione, polymer with methoxyethene (9CI) (CA INDEX NAME)

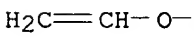
CM 1

CRN 108-31-6
CMF C4 H2 O3



CM 2

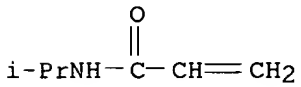
CRN 107-25-5
CMF C3 H6 O



RN 25189-55-3 HCAPLUS
CN 2-Propenamide, N-(1-methylethyl)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

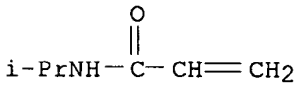
CRN 2210-25-5
CMF C6 H11 N O



RN 97381-57-2 HCAPLUS
CN 2-Propenamide, N-(1-methylethyl)-, polymer with ethenylbenzene (9CI) (CA INDEX NAME)

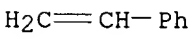
CM 1

CRN 2210-25-5
CMF C6 H11 N O



CM 2

CRN 100-42-5
CMF C8 H8



=> d bib abs hitstr 10-55

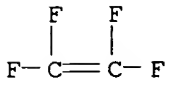
L24 ANSWER 10 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 1998:568970 HCAPLUS
DN 129:200179
TI Methods and compns. for **detection** of **analytes** using color changes that occur in biopolymeric material in response to selective binding of **analytes**
IN Stevens, Raymond; Quan, Cheng
PA The Regents of the University of California, USA
SO PCT Int. Appl., 121 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| PI WO 9836263 | A1 | 19980820 | WO 1998-US2777 | 19980213 |
| W: AU, CA, JP | | | | |
| RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| AU 9861627 | A1 | 19980908 | AU 1998-61627 | 19980213 |
| EP 1007943 | A1 | 20000614 | EP 1998-906389 | 19980213 |
| R: CH, DE, FR, GB, LI | | | | |
| PRAI US 1997-38383 | | 19970214 | | |
| WO 1998-US2777 | | 19980213 | | |

AB The present invention relates to methods and compns. for the direct **detection** of **analytes** using color changes that occur in biopolymeric material in response to selective binding of **analytes**. The invention provides biopolymeric materials comprising a plurality of polymd. self-assembling monomers and one or more protein ligands, wherein the biopolymeric materials change color in the presence of **analyte**. In some embodiments, the protein ligands are selected from the group consisting of peptides, proteins, antibodies, receptors, channels, and combinations thereof, although the present invention contemplates all protein ligands. In specific embodiments, the antibodies of the presently claimed invention are directed against Chlamydia.
IT **9002-84-0**, Teflon **9002-88-4 9003-53-6**, Polystyrene **9012-36-6**, Sepharose **9014-76-0**, Sephadex **9036-19-5**, Octoxynol **25014-41-9**, Polyacrylonitrile **25322-68-3**
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(methods and compns. for **detection** of **analytes** using color changes that occur in biopolymeric material in response to selective binding of **analytes**)
RN 9002-84-0 HCAPLUS
CN Ethene, tetrafluoro-, homopolymer (9CI) (CA INDEX NAME)

CM 1

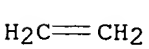
CRN 116-14-3
CMF C2 F4



RN 9002-88-4 HCAPLUS
CN Ethene, homopolymer (9CI) (CA INDEX NAME)

CM 1

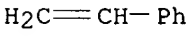
CRN 74-85-1
CMF C2 H4



RN 9003-53-6 HCAPLUS
CN Benzene, ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

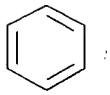
CRN 100-42-5
CMF C8 H8

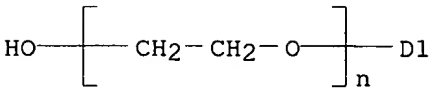


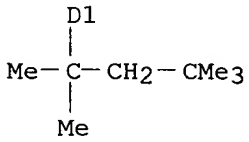
RN 9012-36-6 HCAPLUS
CN Agarose (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 9014-76-0 HCAPLUS
CN Sephadex (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 9036-19-5 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-
.omega.-hydroxy- (9CI) (CA INDEX NAME)



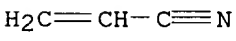




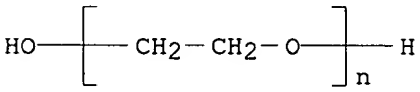
RN 25014-41-9 HCAPLUS
CN 2-Propenenitrile, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 107-13-1
CMF C3 H3 N



RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)

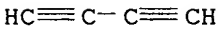


IT **27987-87-7**, Polydiacetylene
RL: ARU (Analytical role, unclassified); PRP (Properties); RCT (Reactant);
ANST (Analytical study)
(methods and compns. for **detection** of **analytes** using color changes that occur in biopolymeric material in response to selective binding of **analytes**)
RN 27987-87-7 HCAPLUS
CN 1,3-Butadiyne, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 460-12-8

CMF C4 H2

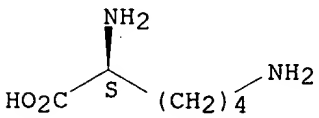


L24 ANSWER 11 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 1998:468370 HCAPLUS
DN 129:241935
TI Amperometric glucose sensor using a polyion **complex**-enzyme bilayer system
AU Mizutani, Fumio; Sato, Yukari; Sawaguchi, Takahiro; Yabuki, Soichi
CS National Institute of Bioscience and Human-Technology, Ibaraki, 305, Japan
SO Chem. Sens. (1997), 13(Suppl. B, Proceedings of the 25th Chemical Sensor Symposium, 1997), 37-40
CODEN: KAGSEU
PB Denki Kagakkai Kagaku Sensa Kenkyukai
DT Journal
LA Japanese
AB An amperometric glucose-sensing electrode was prepd. as follows. First, a **gold** electrode was modified with mercaptopropionic acid (MPA) by soaking the electrode in an alc. soln. contg. MPA. Then an aq. soln. contg. poly-L-lysine and that contg. poly(4-styrenesulfonate) was successively placed on the electrode surface to form a polyion **complex** layer, and the solvent was allowed to dry. Finally, an enzyme layer was formed on the polyion **complex** layer by placing a glucose oxidase (GOx) soln. and a glutaraldehyde soln. and drying. The modification of the **gold** surface with MPA was effective for enhancing the adhesiveness of the polyion **complex** layer to the base electrode owing to the electrostatic interaction between the amino groups of poly-L-lysine and the carboxylic groups of MPA mols. on the electrode. The amino groups of poly-L-lysine were also be useful for immobilizing GOx mols. The **hydrophilicity** and permoselectivity of the polyion **complex** membrane were effective in obtaining a rapid response for glucose (100% response time, 5 s) and how interferential levels (e.g., the ratio of response for L-ascorbic acid to that for the same concn. of glucose, 0.07).
IT **25104-18-1**, Poly-L-lysine **28210-41-5**
RL: DEV (Device component use); USES (Uses)
(amperometric glucose sensor using a polyion **complex**-enzyme bilayer system)
RN 25104-18-1 HCAPLUS
CN L-Lysine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 56-87-1
CMF C6 H14 N2 O2
CDES 5:L

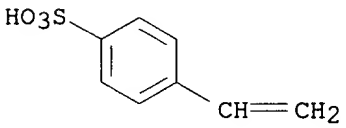
Absolute stereochemistry.



RN 28210-41-5 HCAPLUS
CN Benzenesulfonic acid, 4-ethenyl-, homopolymer (9CI) (CA INDEX NAME)

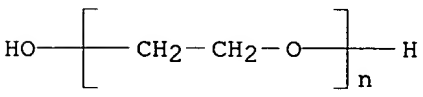
CM 1

CRN 98-70-4
CMF C8 H8 O3 S



L24 ANSWER 12 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 1997:811812 HCAPLUS
DN 128:151318
TI MALDI mass spectrometry of biomolecules and synthetic polymers using alkali hexacyanoferrate (II) **complexes** and glycerol as matrix
AU Zollner, Peter; Stubiger, Gerald; Schmid, Erich; Pittenauer, Ernst; Allmaier, Gunter
CS Wahringer Str. 38, Institute for Analytical Chemistry, University of Vienna, Vienna, A-1090, Austria
SO Int. J. Mass Spectrom. Ion Processes (1997), 169/170, 99-109
CODEN: IJMPDN; ISSN: 0168-1176
PB Elsevier Science B.V.
DT Journal
LA English
AB K4[**Fe**(CN)6]/glycerol and Na4[**Fe**(CN)6]/glycerol have been investigated as liq. matrix systems for UV-MALDI MS applying a N2 laser. **Analyte** mols. were detected as sodium or potassium adduct ions and, in the case of proteins, as well as protonated mol. ions.
Mass accuracies were comparable to those found with std. solid matrix systems with -0.06 to +0.05 deviation in the reflectron mode and with -0.24 to +0.13 in the linear mode. Useful results could be obtained within a mass range of 15 000 Da for single-charged proteins and 8000 Da for potassium cationized polyethylene glycols. **Detection** limits were found for **hydrophilic** compds. in the low picomol range and for lipophilic compds. as triacylglycerols or peracetylated and partially benzylated carbohydrates in the low fentomol range. As shown by scanning electron microscopic investigations, the generation of a thin homogeneous matrix layer was essential for a successful mass spectrometric expt. A very careful cleaning of the target surface with glacial acid prior to matrix deposition improved the formation of such a matrix film that max. sensitivity as well as good reproducibility of the expts. could be achieved.
IT **9004-10-8**, Insulin, **analysis 25322-68-3**, Polyethyleneglycol
RL: ANT (Analyte); ANST (Analytical study)
(MALDI mass spectrometry of biomols. and synthetic polymers using alkali hexacyanoferrate (II) **complexes** and glycerol as matrix)
RN 9004-10-8 HCAPLUS
CN Insulin (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



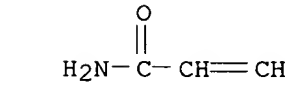
L24 ANSWER 13 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 1997:532478 HCAPLUS
DN 127:126294
TI Reliable integrated electrochemical micro-sensors and micro-systems for the direct chemical **analysis** of compounds in **complex** aqueous media
IN Buffle, Jacques; Tercier, Mary-Lou; Belmont, Cecile; Koudelka-Hep, Milena;
Fiaccabrino, Giovanni Carlo
PA Universite De Geneve, Switz.
SO Eur. Pat. Appl., 17 pp.
CODEN: EPXXDW
DT Patent
LA French
FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| PI EP 780684 | A1 | 19970625 | EP 1996-119847 | 19961211 |
| R: CH, DE, GB, LI | | | | |
| FR 2742543 | A1 | 19970620 | FR 1995-15071 | 19951219 |
| FR 2742543 | B1 | 19980213 | | |
| US 5865972 | A | 19990202 | US 1996-762342 | 19961209 |
| PRAI FR 1995-15071 | 19951219 | | | |

AB An electrochem. micro-sampler using cells reactive to various chem. species has a coating of **hydrophilic** gels of polymers used to screen contaminants such as colloids and macromols. from the cells prior to voltametric **anal.**
IT **9003-05-8**, Polyacrylamide **9012-36-6**, Agarose **25249-16-5**
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(**hydrophilic** gel; reliable integrated electrochem. micro-sensors and micro-systems for the direct chem. **anal.** of compds. in **complex** aq. media)
RN 9003-05-8 HCAPLUS
CN 2-Propenamide, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 79-06-1
CMF C3 H5 N O

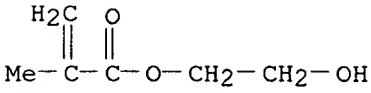


RN 9012-36-6 HCAPLUS
CN Agarose (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 25249-16-5 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

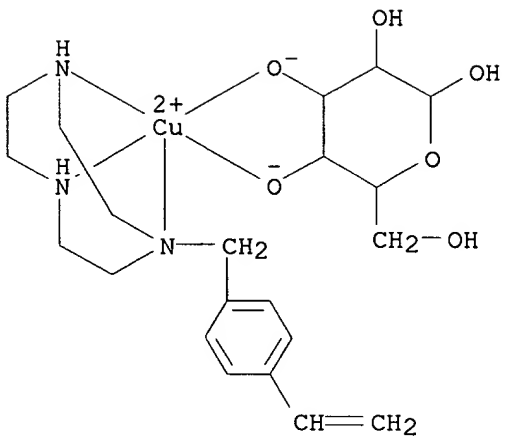
CRN 868-77-9
CMF C6 H10 O3



L24 ANSWER 14 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 1997:252441 HCAPLUS
DN 126:303407
TI A glucose-sensing polymer
AU Chen, Guohua; Sundaresan, Vidyasankar; Arnold, Frances H.
CS Division of Chemistry and Chemical Engineering 210-41, California Institute of Technology, Pasadena, CA, 91125, USA
SO Polym. Mater. Sci. Eng. (1997), 76, 378-379
CODEN: PMSEDG; ISSN: 0743-0515
PB American Chemical Society
DT Journal
LA English
AB A robust, **Cu-complexing** polymer (TACN-Cu2+ contg.) is described that can be used to monitor glucose concn. in **complex** biol. samples, e.g., blood plasma. The approach to monitor glucose concn. uses ligand exchange on the TACN-Cu2+ **complex** which is incorporated into a **hydrophilic**, porous polymer matrix to provide a platform for a sensor. A polymerizable styryl-TACN-Cu2+ **complex** was synthesized as the functional monomer that was crosslinked by N,N'-methylenebisacrylamide to produce a microporous polymer that still binds glucose but excludes larger mols. such as glycoproteins that might otherwise bind to the metal **complex**. This approach, which combines metal coordination/chelation for sugar binding, ligand exchange for signal transduction, and mol. imprinting to create a polymer platform and potentially enhance binding selectivity, is promising for developing simple, stable, and inexpensive sensors for monitoring glucose concns. in clin. diagnostic and bioprocess applications.
IT **182509-69-9P**
RL: ARG (Analytical reagent use); PEP (Physical, engineering or chemical process); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); PROC (Process); USES (Uses)
(glucose-sensing polymer prepn. for blood **anal**.)
RN 182509-69-9 HCAPLUS
CN Copper, [1-[(4-ethenylphenyl)methyl]octahydro-1H-1,4,7-triazonine-.kappa.N1,.kappa.N4,.kappa.N7][.beta.-D-glucopyranosato(2-)-.kappa.O3,.kappa.O4]-, polymer with N,N'-methylenebis[2-propenamide] (9CI)
(CA INDEX NAME)

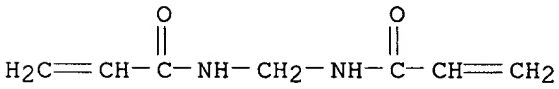
CM 1

CRN 182306-49-6
CMF C21 H33 Cu N3 O6
CCI CCS
CDES *



CM 2

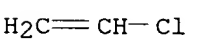
CRN 110-26-9
CMF C7 H10 N2 O2



L24 ANSWER 15 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 1997:149764 HCAPLUS
DN 126:268015
TI A nitrite microsensor for profiling environmental biofilms
AU de Beer, Dirk; Schramm, Andreas; Santegoeds, Cecilia M.; Kuehl, Michael
CS Max Planck Inst. Marine Microbiology, Bremen, Germany
SO Appl. Environ. Microbiol. (1997), 63(3), 973-977
CODEN: AEMIDF; ISSN: 0099-2240
PB American Society for Microbiology
DT Journal
LA English
AB A highly selective liq. membrane nitrite microsensor based on the hydrophobic ion carrier aquocyano-**cobalt**(III)-hepta(2-phenylethyl)-cobrynate is described. The sensor has a tip diam. of 10-15 .mu.m. The response is log-linear in freshwater down to 1 .mu.M NO2- and in seawater to 10 .mu.M NO2-. A method is described for prepn. of relatively large polyvinyl chloride (PVC)-gelled liq. membrane microsensors with a tip diam. of 5-15 .mu.m, having a **hydrophilic** coating on the tip. The coating and increased tip diam. resulted in more sturdy sensors, with a lower **detection** limit and a more stable signal than uncoated nitrite sensors with a tip diam. of 1-3 .mu.m. The coating protects the sensor membrane from detrimental direct contact with biomass and can be used for all PVC-gelled liq. membrane sensors meant for profiling microbial mats, biofilms, and sediments. Thanks to these improvements, liq. membrane sensors can now be used in **complex** environmental samples and in situ, e.g., in operating bioreactors. Examples of measurements in denitrifying, nitrifying, and nitrifying/denitrifying biofilms from wastewater treatment plants are shown. In all of these biofilms high nitrite concns. were found in narrow zones of <1 mm.
IT **9002-86-2**, Polyvinyl chloride
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)
(nitrite microsensor for profiling environmental biofilms)
RN 9002-86-2 HCAPLUS
CN Ethene, chloro-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 75-01-4
CMF C2 H3 Cl



L24 ANSWER 16 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 1996:606587 HCAPLUS
DN 125:277320
TI Sorption of arsenic anions onto poly(ethylene mercaptoacetimide)
AU Styles, Patricia M.; Chanda, M.; Rempel, G. L.
CS Department of Chemical Engineering, University of Waterloo, Waterloo, ON, N2L 3G1, Can.
SO React. Funct. Polym. (1996), 31(2), 89-102
CODEN: RFPOF6; ISSN: 1381-5148
DT Journal
LA English
AB A **hydrophilic** thiol resin, poly(ethylene mercaptoacetimide) (PEM), has been prepd. from branched poly(ethyleneimine) of mol. wt. 40,000-60,000 by Schotten-Baumann reaction using mercaptoacetyl chloride. The resin, with a free mercaptan content of 8.26 meq/g and a std. potential of 0.217 V, as **detd.** by electrochem. measurements, exhibits spontaneous redox sorption of arsenate anions in acidic medium. The satn. capacity for arsenate is 106 **mg** As/g dry resin at pH 2. The resin, however, sorbs arsenite anions only in alk. medium and shows a satn. capacity of 30 **mg** As/g dry resin at pH 8. In addn. to redox sorptions, a significant amt. of arsenic sorption appears to take place via alternative mechanisms such as **complexation** by thiol and anion exchange on protonated amine sites of the branched PEM. The sorption of both arsenate and arsenite is significantly reduced by the presence of salts, NaCl and Na2SO4, in soln. The sorption kinetics are controlled by the diffusion of arsenical anions in the resin particle. The sorbed arsenic species are readily stripped by 0.2 N NH4OH and the stripped resin in the oxidized (disulfide) form is reconverted to the active thiol form by treatment with an excess of 10% sodium bisulfite soln.
IT **9002-98-6D**, reaction products with mercaptoacetyl chloride
RL: PRP (Properties)
(sorption of arsenic anions onto poly(ethylene mercaptoacetimide))
RN 9002-98-6 HCAPLUS
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4
CMF C2 H5 N

L24 ANSWER 17 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 1996:592430 HCAPLUS
DN 125:346313
TI Polymer pendant ligand chemistry-5. The selective and competitive removal of Ag+, Hg2+, Cu2+ and Cd2+ ions from aqueous solution utilizing a N-sulfonylethylenebis(dithiocarbamate) ligand anchored on macroporous polystyrene-divinylbenzene beads
AU Huang, Song-Ping; Franz, Katherine J.; Arnold, Eunice H.; Devenyi, Jozsef; Fisyh, Richard H.
CS Lawrence Berkeley Natl. Lab., Univ. California, Berkeley, CA, 94720, USA
SO Polyhedron (1996), 15(23), 4241-4254
CODEN: PLYHDE; ISSN: 0277-5387
DT Journal
LA English
AB An important new focus for environmental inorg. chem. is the selective removal and recovery of metal ions from aq. soln. with org. ligands anchored to modified polymer backbones. Several significant criteria for facile metal ion removal from aq. soln. includes the **hydrophilicity** of the pendant org. ligand when it is anchored to a hydrophobic, pH stable polymer backbone such as modified, macroporous polystyrene-divinylbenzene beads, as well as the kinetics and thermodn. of the pendant ligand reaction with the selected metal ion. The authors report on an example of a polymer pendant ligand that is highly selective for the removal of metal ions from aq. soln. at pH 3.0 in a competitive environment. Thus, a predisposed polymer pendant N-sulfonylethylenebis(dithiocarbamate) ligand (PS-SED, 1.12 mmol/g), anchored on modified, macroporous 6% polystyrene-divinylbenzene beads, was synthesized and is highly selective for the removal of Ag+ ions (2.17 mmol/g, 2:1 Ag+/PS-SED **complex**, t1/2 = 7 min) from aq. soln. at pH 3.0 in the presence of a variety of competing tri- and divalent metal ions such as Fe3+, Cr3+, Al3+, Cu2+, Ni2+, Zn2+, Mg2+, and Pb2+. When Hg2+ ions (1.24 mmol/g, 1:1 Hg2+/PS-SED **complex**, t1/2 = 10 min) are added to this mixt. of metal ions, including Ag+ ions, there is a pronounced selectivity toward Hg2+ ions for the PS-SED ligand. In the absence of Ag+ and Hg2+, then Pb2+ ions (1.06 mmol/g, 1:1 Pb2+/PS-SED **complex**, t1/2 = 6 min) are moderately selective in the presence of other competing metal ions including Cd2+ ions; Cu2+ ions are the exception (0.93 mmol/g, .apprx.1:1 Cu2+/PS-SED **complex**, t1/2 = 3 min). As well, in the absence of Pb2+ ions, Cd2+ ions (0.65 mmol/g, .apprx.1:1 Cd2+/PS-SED **complex**, t1/2 .gtoreq. 10 min) also are moderately selective in the presence of other competing metal ions; but again, Cu2+ is the exception. Whereas Cu2+ has a selectivity over Pb2+ and Cd2+ in a competitive reaction, Fe3+ ion is more selective in competition with Cu2+, while in competition with Fe3+ ion, Ag+, Hg2+, Pb2+ and Cd2+ are all more selective. The overall selectivity is: Hg2+ .gtoreq. Ag+ > Cu2+ > Pb2+ > Cd2+ > Fe3+ .apprx. Al3+ .apprx. Cr3+ > Ni2+ > Zn2+ .apprx. Co2+ > Mn2+ .mchgt. Mg2+. Also, a facile recovery of Ag+, Cu2+, and Cd2+ ions from the resp. metal-ion-PS-SED **complexes** on the beads were readily accomplished (.apprx.99% recovery) using a 10% NaCN

soln. at pH 11. A full discussion of these results will be presented.

IT **9003-70-7DP**, Polystyrene-divinylbenzene copolymer, N-sulfonylethylenebis(dithiocarbamate) modified
RL: ARU (Analytical role, unclassified); NUU (Nonbiological use, unclassified); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(selective and competitive removal of Ag+, Hg2+, Cu2+ and Cd2+ ions from aq. soln. utilizing N-sulfonylethylenebis(dithiocarbamate) ligand anchored on macroporous polystyrene-divinylbenzene beads)

RN 9003-70-7 HCAPLUS

CN Benzene, diethenyl-, polymer with ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 1321-74-0
CMF C10 H10
CCI IDS
CDES 8:ID

2 [ D1—CH═CH2 ]

CM 2

CRN 100-42-5
CMF C8 H8

H2C═CH—Ph

L24 ANSWER 18 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 1996:246608 HCAPLUS
DN 124:359296
TI The comparative investigation of several stationary phases containing iminodiacetic functional groups for the high performance chelating exchange chromatography
AU Nesterenko, P.; Jones, P.
CS Dep. Chem., Lomonosov Moscow State Univ., Moscow, 119899, Russia
SO J. Liq. Chromatogr. Relat. Technol. (1996), 19(7), 1033-45
CODEN: JLCTFC; ISSN: 1082-6076
DT Journal
LA English
AB Three chelating ion-exchangers having iminodiacetic acid functional groups immobilized at the surface of different substrates (silica gel, **hydrophilic** and hydrophobic polymer matrixes) were compared for the sepn. of various alk.-earth and **transition metal** ions. The retention of metal ions on two com. available Diasorb IDA silica (250 mm .times. 4 mm id.) and Tosoh TSK Gel Chelate 5 PW (75 x 7 mm id.) columns and column packed with poly(styrene-divinylbenzene) substrate coated with Phthalein Purple dye was studied in maleate, tartrate and oxalate mobile phases. Metal-ion retention increased with pH and with a decrease in eluent concn. The **complexing** ability of ion-exchangers decreased in the order IDA-**complexing** ability of ion-exchangers decreased in the order IDA-silica > TSK Gel Chelate 5 PW > polystyrene-divinylbenzene coated with Phthalein Purple dye. The selectivity of sepn. was similar for IDA-silica and TSK Gel Chelate 5 PW and was slightly different for the dye coated column. The chromatog. sepn. of metal ions is demonstrated in oxalate and tartrate mobile phases.
IT **9003-70-7**, Poly(styrene-divinylbenzene)
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(phthalein purple coated; comparative investigation of several stationary phases contg. iminodiacetic functional groups for high performance chelating exchange chromatog.)
RN 9003-70-7 HCAPLUS
CN Benzene, diethenyl-, polymer with ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 1321-74-0
CMF C10 H10
CCI IDS
CDES 8:ID

2 [ D1—CH═CH2 ]

CM 2

CRN 100-42-5
CMF C8 H8

H2C═CH—Ph

L24 ANSWER 19 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 1995:994994 HCAPLUS
DN 124:49699
TI Gas-filled microspheres as magnetic resonance imaging (MRI) contrast agents
IN Unger, Evan C.
PA USA
SO PCT Int. Appl., 111 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 19

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | WO 9524184 | A1 | 19950914 | WO 1995-US2782 | 19950310 |
| | W: AU, CA, CN, JP | | | | |
| | RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| | US 5922304 | A | 19990713 | US 1995-401974 | 19950309 |
| | AU 9521573 | A1 | 19950925 | AU 1995-21573 | 19950310 |
| | EP 797433 | A1 | 19971001 | EP 1995-914685 | 19950310 |
| | R: DE, FR, GB | | | | |
| | JP 09510204 | T2 | 19971014 | JP 1995-523574 | 19950310 |

PRAI US 1994-212553 19940311
US 1995-401974 19950309
US 1989-455707 19891222
US 1990-569828 19900820
US 1991-716899 19910618
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US 1993-76250 19930611
US 1993-159674 19931130
US 1993-159687 19931130
US 1993-160232 19931130
US 1994-307305 19940916
WO 1995-US2782 19950310

AB Gas-filled microspheres are provided which are useful as MRI contrast agents. The gas is a biocompatible gas, e.g. nitrogen, or is derived from a gaseous precursor, e.g. perfluorooctyl bromide. The microspheres are stabilized by being formed from a stabilizing compd., e.g. a biocompatible lipid or polymer. Also disclosed are methods for prepg. the microspheres, as well as imaging methods (for e.g. cardiovascular or gastrointestinal regions) using the microspheres.

IT **9000-07-1**, Carrageenan **9000-69-5**, Pectin **9002-84-0**, Polytetrafluoroethylene **9002-86-2**, Polyvinyl chloride **9002-88-4** **9002-89-5D**, Polyvinyl alcohol, lipids bearing **9003-07-0**, Polypropylene **9003-39-8D**, Polyvinylpyrrolidone, lipids bearing **9003-53-6** **9004-34-6**, Cellulose, biological studies **9004-54-0**, Dextran, biological studies **9004-61-9D**, Hyaluronic acid, lipids bearing **9005-32-7**, Alginic acid **9005-79-2**, Glycogen, biological

studies **9005-82-7**, Amylose **9007-27-6**, Chondroitin **9011-14-7**, Polymethyl methacrylate **9012-36-6**, Agarose **9012-72-0**, Glucan **9013-95-0**, Levan **9014-63-5**, Xylan **9036-88-8**, Mannan **9037-22-3**, Amylopectin **9037-55-2**, Galactan **9037-90-5**, Fructan **9046-38-2**, Galacturonan **9046-40-6**, Pectic acid **9057-02-7**, Pullulan **9072-19-9**, Fucoidan **11138-66-2**, Xanthan gum **24937-47-1**, Polyarginine **25038-59-9**, Polyethylene terephthalate, biological studies **25104-18-1**, Polylysine **25212-18-4**, Polyarginine **25322-68-3 25322-68-3D**, lipids bearing **25322-69-4D**, lipids bearing **26023-30-3**, Poly[oxy(1-methyl-2-oxo-1,2-ethanediyl)] **26100-51-6**, Polylactic acid **38000-06-5**, Polylysine **60495-58-1**, Galactocarolose
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(gas-filled microspheres for MRI contrast agents)

RN 9000-07-1 HCAPLUS
CN Carrageenan (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

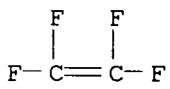
RN 9000-69-5 HCAPLUS
CN Pectin (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 9002-84-0 HCAPLUS
CN Ethene, tetrafluoro-, homopolymer (9CI) (CA INDEX NAME)

CM 1

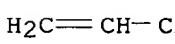
CRN 116-14-3
CMF C2 F4



RN 9002-86-2 HCAPLUS
CN Ethene, chloro-, homopolymer (9CI) (CA INDEX NAME)

CM 1

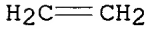
CRN 75-01-4
CMF C2 H3 Cl



RN 9002-88-4 HCAPLUS
CN Ethene, homopolymer (9CI) (CA INDEX NAME)

CM 1

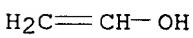
CRN 74-85-1
CMF C2 H4



RN 9002-89-5 HCAPLUS
CN Ethenol, homopolymer (9CI) (CA INDEX NAME)

CM 1

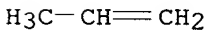
CRN 557-75-5
CMF C2 H4 O



RN 9003-07-0 HCAPLUS
CN 1-Propene, homopolymer (9CI) (CA INDEX NAME)

CM 1

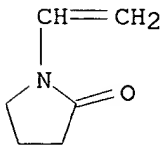
CRN 115-07-1
CMF C3 H6



RN 9003-39-8 HCAPLUS
CN 2-Pyrrolidinone, 1-ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 88-12-0
CMF C6 H9 N O

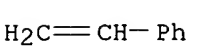


RN 9003-53-6 HCAPLUS
CN Benzene, ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 100-42-5

CMF C8 H8



RN 9004-34-6 HCAPLUS
CN Cellulose (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 9004-54-0 HCAPLUS
CN Dextran (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 9004-61-9 HCAPLUS
CN Hyaluronic acid (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 9005-32-7 HCAPLUS
CN Alginic acid (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 9005-79-2 HCAPLUS
CN Glycogen (8CI, 9CI) (CA INDEX NAME)

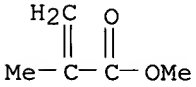
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 9005-82-7 HCAPLUS
CN Amylose (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 9007-27-6 HCAPLUS
CN Chondroitin (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 9011-14-7 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, methyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 80-62-6
CMF C5 H8 O2



RN 9012-36-6 HCAPLUS
CN Agarose (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 9012-72-0 HCAPLUS

CN D-Glucan (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 9013-95-0 HCAPLUS
CN Levan (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 9014-63-5 HCAPLUS
CN Xylan (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 9036-88-8 HCAPLUS
CN D-Mannan (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 9037-22-3 HCAPLUS
CN Amylopectin (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 9037-55-2 HCAPLUS
CN D-Galactan (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 9037-90-5 HCAPLUS
CN D-Fructan (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 9046-38-2 HCAPLUS
CN D-Galacturonan (9CI) (CA INDEX NAME)

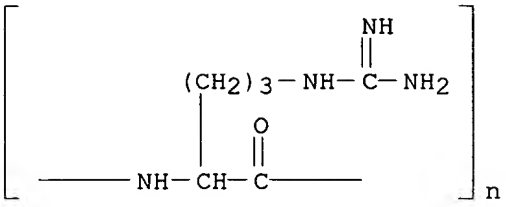
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 9046-40-6 HCAPLUS
CN Pectic acid (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 9057-02-7 HCAPLUS
CN Pullulan (9CI) (CA INDEX NAME)

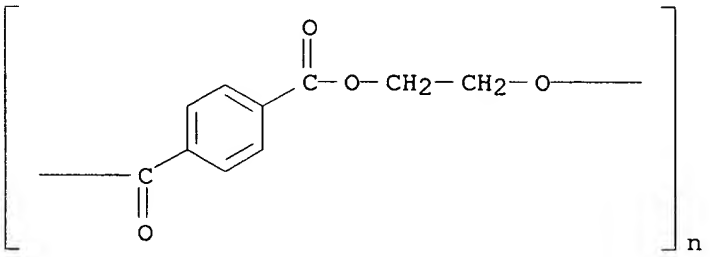
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 9072-19-9 HCAPLUS
CN Fucoidan (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 11138-66-2 HCAPLUS
CN Xanthan gum (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 24937-47-1 HCAPLUS
CN Poly[imino[(1S)-1-[3-[(aminoiminomethyl)amino]propyl]-2-oxo-1,2-ethanediyl]] (9CI) (CA INDEX NAME)



RN 25038-59-9 HCAPLUS
CN Poly(oxy-1,2-ethanediyloxycarbonyl-1,4-phenylenecarbonyl) (9CI) (CA INDEX
NAME)

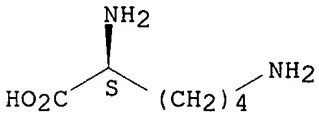


RN 25104-18-1 HCAPLUS
CN L-Lysine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 56-87-1
CMF C6 H14 N2 O2
CDES 5:L

Absolute stereochemistry.

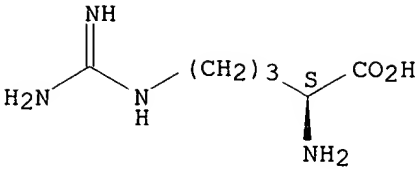


RN 25212-18-4 HCAPLUS
CN L-Arginine, homopolymer (9CI) (CA INDEX NAME)

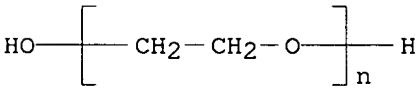
CM 1

CRN 74-79-3
CMF C6 H14 N4 O2
CDES 5:L

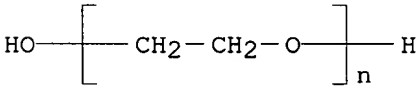
Absolute stereochemistry.



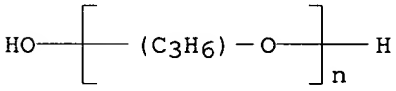
RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



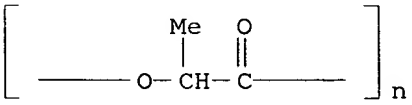
RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



RN 25322-69-4 HCAPLUS
CN Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



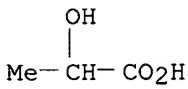
RN 26023-30-3 HCAPLUS
CN Poly[oxy(1-methyl-2-oxo-1,2-ethanediyl)] (8CI, 9CI) (CA INDEX NAME)



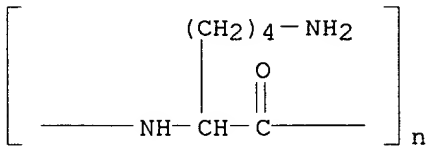
RN 26100-51-6 HCAPLUS
CN Propanoic acid, 2-hydroxy-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 50-21-5
CMF C3 H6 O3



RN 38000-06-5 HCAPLUS
CN Poly[imino[(1S)-1-(4-aminobutyl)-2-oxo-1,2-ethanediyl]] (9CI) (CA INDEX NAME)



RN 60495-58-1 HCAPLUS
CN Galactocarolose (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

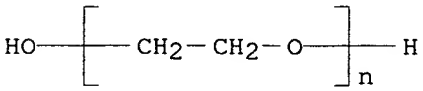
L24 ANSWER 20 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 1995:471865 HCAPLUS
DN 122:222861
TI Biodegradable particles for diagnosis and therapy
IN Gref, Ruxandra; Minamitake, Yoshiharu; Langer, Robert S.
PA Massachusetts Institute of Technology, USA
SO PCT Int. Appl., 51 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 4

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | WO 9503357 | A1 | 19950202 | WO 1994-US8416 | 19940722 |
| | W: CA, JP | | | | |
| | RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| | US 5543158 | A | 19960806 | US 1993-96370 | 19930723 |
| | US 5565215 | A | 19961015 | US 1994-210677 | 19940318 |
| | EP 710261 | A1 | 19960508 | EP 1994-922733 | 19940722 |
| | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE | | | | |
| | JP 09504042 | T2 | 19970422 | JP 1994-505393 | 19940722 |
| PRAI | US 1993-96370 | 19930723 | | | |
| | US 1994-210677 | 19940318 | | | |
| | WO 1994-US8416 | 19940722 | | | |

AB Particles are provided that are not rapidly cleared from the blood stream by the macrophages of the reticuloendothelial system, and that can be modified to achieve variable release rates or to target specific cells or organs. The particles have a biodegradable solid core contg. a biol. active material and poly(alkylene glycol) moieties on the surface. The terminal hydroxyl group of the poly(alkylene glycol) can be used to covalently attach onto the surface of the particles biol. active mols., including antibodies targeted to specific cells or organs, or mols. affecting the charge, lipophilicity, or **hydrophilicity** of the particle. The surface of the particle can also be modified by attaching biodegradable polymers of the same structure as those forming the core of the particles. The typical size of the particles is 1-1000 nm, preferably 1-100 nm, although microparticles can also be formed similarly. The particles can include magnetic particles or radiopaque materials, such as air and other gases, for diagnostic imaging, biol. active mols. to be delivered to a site, or compds. for targeting the particles. The particles have a prolonged half-life in the blood compared to particles not contg. poly(alkylene glycol) moieties on the surface. Thus, a diblock copolymer was prepd. by polymn. of lactide and glycolide onto PEG. A soln. of this copolymer 25 and lidocaine 25 **mg** was dissolved in 2 mL CH2Cl2 and emulsified in water, and nanospheres were prepd. by evapn. of the CH2Cl2 and centrifuging. Lidocaine was released continuously from these particles into water (90% after 10 h).

IT **25322-68-3D**, PEG, block copolymers **34346-01-5D**, Lactic acid/glycolic acid copolymer, block copolymers with polyoxyalkylenes
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)

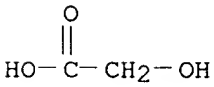
(biodegradable particles for diagnosis and therapy)
RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



RN 34346-01-5 HCAPLUS
CN Propanoic acid, 2-hydroxy-, polymer with hydroxyacetic acid (9CI) (CA INDEX NAME)

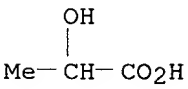
CM 1

CRN 79-14-1
CMF C2 H4 O3



CM 2

CRN 50-21-5
CMF C3 H6 O3



IT **162068-58-8P**
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(diblock; biodegradable particles for diagnosis and therapy)
RN 162068-58-8 HCAPLUS

L24 ANSWER 21 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 1995:448968 HCAPLUS
DN 122:234651
TI Capillary electrophoresis of carboxylated carbohydrates. I. Selective precolumn derivatization of gangliosides with UV absorbing and fluorescent tags
AU Mechref, Yehia; Ostrander, Gary K.; El Rassi, Ziad
CS Department of Chemistry, Oklahoma State University, Stillwater, OK, 74078, USA
SO J. Chromatogr., A (1995), 695(1), 83-95
CODEN: JCRAEY
DT Journal
LA English
AB The authors demonstrate that the precolumn derivatization reaction, recently introduced by them for the selective labeling of carboxylated monosaccharides, can be readily transposed to other glycoconjugates contg. carboxylated sugar residues, namely sialogangliosides. The selective derivatization reaction described here involved the attachment of sulfanilic acid (a UV-absorbing tag) or 7-aminonaphthalene-1,3-disulfonic acid (a UV-absorbing and also fluorescing tag) to the sialic acid moiety of the gangliosides via the carboxylic group in the presence of water-sol. carbodiimide. This labeling of the sialic acid moiety of the gangliosides with a chromophore and/or fluorophore **leads** to the formation of an amide bond between the carboxylic group of the sugar residue and the amino group of the derivatizing agent, thus replacing the weak carboxylic acid group of the carbohydrate species by the stronger sulfonic acid group which is ionized over the entire pH range. Furthermore, novel electrolyte systems were introduced and evaluated for the sepn. of the derivatized and underivatized gangliosides. Addn. of acetonitrile or .alpha.-cyclodextrin (.alpha.-CD) to the running electrolyte was necessary to break up the aggregation of amphiphilic gangliosides and allowed for their efficient sepn. as monomers in aq. media using capillary electrophoresis. Several operating parameters were investigated with these electrolyte systems including the additive concn. as well as the ionic strength, pH and nature of the running electrolyte. Acetonitrile at 50% (vol./vol.) in 5 mM sodium phosphate at high and low pH or 15 mM .alpha.-CD in 100 mM sodium borate, pH 10.0, proved ideal, in terms of resoln. and sepn. efficiency, for the group sepn. of mono-, di- and trisialogangliosides. The complete resoln. of disialoganglioside isomers (e.g., GD1a and GD1b) necessitated the superimposition of a chromatog. component on the electrophoretic process. This was achieved by adding either a hydrophobic (e.g., decanoyl-N-methylglucamide-borate surfactant **complex**) or **hydrophilic** [e.g., poly(vinyl alc.) or hydroxypropyl cellulose] selectors to the running electrolyte.

IT **9002-89-5**, Poly(vinyl alcohol)
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(selective precolumn derivatization of gangliosides with UV absorbing and fluorescent tags for capillary electrophoresis)
RN 9002-89-5 HCAPLUS
CN Ethenol, homopolymer (9CI) (CA INDEX NAME)

CM 1

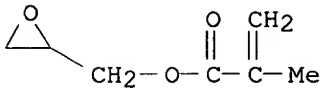
CRN 557-75-5
CMF C2 H4 O

$H_2C{=}CH{-}OH$

L24 ANSWER 22 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 1994:714895 HCAPLUS
DN 121:314895
TI Two-Dimensional High-Performance Liquid Chromatography Using Monodisperse Polymer Beads Containing Segregated Chemistries Prepared by Pore Size Specific Functionalization. Single-Column Combinations of Size Exclusion or Ion Exchange with Reversed-Phase Chromatography
AU Smigol, Vladimir; Svec, Frantisek; Frechet, Jean M. J.
CS Department of Chemistry, Cornell University, Ithaca, NY, 14853-1301, USA
SO Anal. Chem. (1994), 66(23), 4308-15
CODEN: ANCHAM; ISSN: 0003-2700
DT Journal
LA English
AB Sepn. media for the complete sepn. of **complex** samples that require a combination of size exclusion or ion-exchange with reversed-phase chromatog. modes in a single column have been prepd. from size monodisperse 10 mm poly(glycidyl methacrylate-**co**-ethylene dimethacrylate) beads using a pore size specific functionalization process. To achieve the first combination of chromatog. modes, the large pores of the beads were selectively hydrolyzed to diols using aq. poly(styrenesulfonic acid), while highly hydrophobic octadecyl groups were introduced into the small pores by reaction of the remaining epoxide groups with octadecylamine. These beads provide excellent protein recoveries and may be used for the direct injection sepn. of samples contg. both **hydrophilic** proteins and hydrophobic drugs. Beads contg. diethylamino groups in the large pores and octadecyl functionalities in the small pores were also prepd. by size-selective modification. A plot of log k' against ionic strength of the mobile phase for these beads shows the absence of hydrophobic interactions and documents the clean ion-exchange mechanism of protein sepn. Examn. of the small pores in both types of sepn. media confirmed that their hydrophobicity was sufficient to allow the sepns. of small mols. in reversed-phase mode. Column packed with these dual-chem. beads exhibited high efficiencies and were used successfully for the sepns. of proteins and alkylbenzenes or drugs.
IT **31743-77-8**
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(beads; two-dimensional HPLC using monodisperse polymer beads contg. segregated chemistries prepd. by pore size specific functionalization)
RN 31743-77-8 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with oxiranylmethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

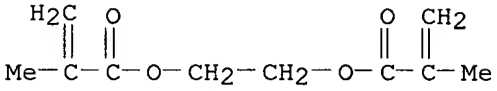
CM 1

CRN 106-91-2
CMF C7 H10 O3

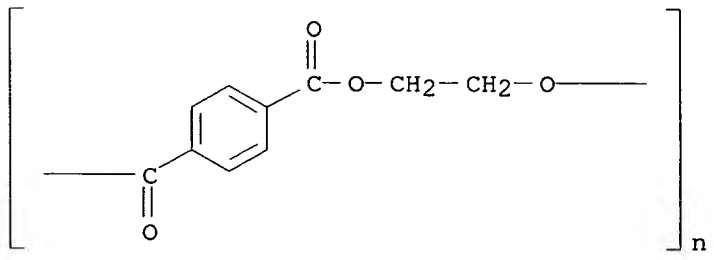


CM 2

CRN 97-90-5
CMF C10 H14 O4



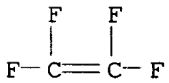
L24 ANSWER 23 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 1994:581828 HCAPLUS
DN 121:181828
TI **Analytical** studies of the alkalization of polyester and wool
AU Daniel, Erwin
CS Germany
SO Text. Prax. Int. (1993), 48(11), 902-5
CODEN: TXPIAT; ISSN: 0340-5028
DT Journal
LA German
AB In many respects the behavior of textiles to water and aq. treatment mediums decides their applicability and their rate of processing in finishing. The surface energy, in direct correlation with the polarity of the surface, **dets.** the **hydrophilicity** and, therefore, the wetting properties. Fiber optic transparency measurements of wetting as an instantaneous reaction provides information about changes in fiber surfaces not only by chem. modification but also by the sorption of adsorbates. The hydrophobic behavior of polyester fibers, characterized by high wetting angles, is reduced through alkalization. The optics, haptics, adhesion of sizes, the rate of dyeing, and affinity for dyes are improved. In the case of wool, the cuticle, because of its hydrophobicity, acts as a diffusion barrier for an aq. treatment medium. Alkalization produces **complex** changes in the fibers. In addn. to increasing the wettability as a result of increasing surface energy, a degrdn. of cystine bonds occurs. The addn. of stabilizers lowers the risk of fiber degrdn. at the cost of finishing effects. Catalysis processes with cation active compds. are detectable with both types of fibers. The alkalization of wool accelerates the rate of dyeing by increasing the accessibility of the surface and **leads** to a redn. of energy costs by lowering the dyeing temp.
IT **25038-59-9**, Poly(ethylene terephthalate), miscellaneous
RL: USES (Uses)
(fiber, alkalization of, fiber optic transparency measurements for **anal.** and control of)
RN 25038-59-9 HCAPLUS
CN Poly(oxy-1,2-ethanediyloxycarbonyl-1,4-phenylenecarbonyl) (9CI) (CA INDEX NAME)



L24 ANSWER 24 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 1994:510783 HCAPLUS
DN 121:110783
TI Thermal and catalytic behavior of grafted poly(tetrafluoroethylene) (PTFE)
pretreated with some **transition metal** nitrates
AU El-Sawy, N. M.; Fagal, G. A.
CS Natl. Cen. Radiat. Res. Technol., Nasr City, Egypt
SO Bull. Natl. Res. Cent. (Egypt) (1993), 18(1), 31-42
CODEN: BNRCET
DT Journal
LA English
AB A hydrophobic PTFE solid material has been grafted with acrylic acid (AAC)
via exposure to a dose of 20 KGy; the obtained **hydrophilic** solid (PTFE-g-PAAc) was impregnated with a soln. contg. a known amt. of nitrate of **cobalt, copper, iron** or **nickel.**
The extent of loading of metal species was fixed at 16 wt. %, expressed as
metal oxide. DTA, XRD, IR and catalysis of carbon monoxide oxidn. reaction with oxygen have been carried out on the various prepd. solids. The results of thermal **anal.** revealed that very strong exothermic peaks were detected in the DTA curves at 260-290.degree. for **Fe, Co, Cu** species and 340.degree. for **Ni** species. These strong peaks characterize the thermal decompn. of metal ligand with subsequent formation of free amorphous phases. The catalytic activities measured at 200.degree. for different solids heated in vacuum at 240.degree. have been found to vary in the following sequence: **Co** > **Cu** .mchgt. **Fe** > **Ni.**
These results were attributed to the extent of different **transition metal** cations involved in ligand formation, their thermal stability, and the specific activity of the corresponding phases produced.
IT **108594-60-1DP,** Acrylic acid-tetrafluoroethylene graft copolymer, **complexes** with **transition metals**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and thermal **anal.** and oxidn. catalytic activity of)
RN 108594-60-1 HCAPLUS
CN 2-Propenoic acid, polymer with tetrafluoroethene, graft (9CI) (CA INDEX NAME)

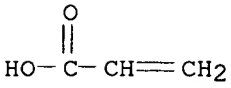
CM 1

CRN 116-14-3
CMF C2 F4



CM 2

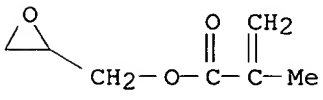
CRN 79-10-7
CMF C3 H4 O2



L24 ANSWER 25 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 1994:425983 HCAPLUS
DN 121:25983
TI High-Performance Liquid Chromatography of **Complex** Mixtures Using Monodisperse Dual-Chemistry Polymer Beads Prepared by a Pore-Size-Specific Functionalization Process. A Single Column Combination of Hydrophobic Interaction and Reversed-Phase Chromatography
AU Smigol, Vladimir; Svec, Frantisek; Frechet, Jean M. J.
CS Department of Chemistry, Cornell University, Ithaca, NY, 14853-1301, USA
SO Anal. Chem. (1994), 66(13), 2129-38
CODEN: ANCHAM; ISSN: 0003-2700
DT Journal
LA English
AB A novel sepn. medium for HPLC combining hydrophobic interaction and reversed-phase sepn. modes in a single column has been prepd. from monodisperse 10-.mu.m poly(glycidyl methacrylate-**co**-ethylene dimethacrylate) beads using a pore-size-specific functionalization process. In this approach, the large pores of each bead were provided with Ph groups interspersed among **hydrophilic** functionalities while a much higher surface concn. of hydrophobic Ph groups was introduced into the small pores. Due to the size-specific character of the modification process, no protein interaction with any highly hydrophobic surface was obsd. during chromatog. The beads were used for the sepn. of samples contg. both proteins and small hydrocarbon or drug mols. A plot of log k' against salt concn. in the mobile phase clearly documents the clean hydrophobic interaction mechanism of protein sepn. and the absence of charged groups while the linear plot of log k' against acetonitrile concn. for numerous compds. demonstrates the reversed-phase sepn. ability.
No decrease of the efficiency of the test column (23,000 plates/m) was obsd. in long-term expts. during which more than 1000 injections and many changes between the modes were performed.
IT **31743-77-8**, Glycidylmethacrylate ethylene dimethacrylate copolymer
RL: ANST (Analytical study)
(pore-size-specific functionalized beads of, as PHLC stationary phase)
RN 31743-77-8 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with oxiranylmethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

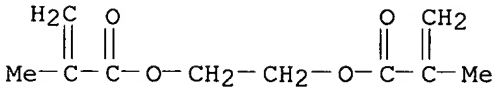
CM 1

CRN 106-91-2
CMF C7 H10 O3



CM 2

CRN 97-90-5
CMF C10 H14 O4



L24 ANSWER 26 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 1994:239683 HCAPLUS
DN 120:239683
TI Preparation of controlled-size inorganic particles for use in separations,
assays, as magnetic molecular switches, and as inorganic liposomes for medical applications
IN Chagnon, Mark S.; Carter, Michelle J.; Ferris, John R.; Gray, Maria A.; Hamilton, Tracy J.; Rudd, Edwin A.
PA Molecular Bioquest, Inc., USA
SO PCT Int. Appl., 101 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 7

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | WO 9326019 | A1 | 19931223 | WO 1993-US5595 | 19930608 |
| | W: CA, JP | | | | |
| | RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| | US 5935866 | A | 19990810 | US 1992-894260 | 19920608 |
| | US 5389377 | A | 19950214 | US 1992-958646 | 19921007 |
| | US 5441746 | A | 19950815 | US 1993-57687 | 19930505 |
| | EP 645048 | A1 | 19950329 | EP 1993-915304 | 19930608 |
| | R: DE, FR, GB, SE | | | | |
| | JP 08500700 | T2 | 19960123 | JP 1993-501742 | 19930608 |
| PRAI | US 1992-894260 | 19920608 | | | |
| | US 1992-911962 | 19920710 | | | |
| | US 1992-958646 | 19921007 | | | |
| | US 1993-57687 | 19930505 | | | |
| | US 1989-455071 | 19891222 | | | |
| | US 1990-556169 | 19900810 | | | |
| | US 1990-566169 | 19900810 | | | |
| | WO 1993-US5595 | 19930608 | | | |

AB Inorg. oxides of substantially uniform particle size distribution are prepd. by contacting aq. solns. of an inorg. salt and an inorg. base across a porous membrane, wherein the membrane contains pores which allow for pptn. of a substantially monodispersed size of inorg. oxide particles on one side of the membrane and pptn. of a salt of the corresponding base on a second side of the membrane. The prepd. particles can be coated with an organo-metallic polymer having attached thereto an org. functionality to which a variety of org. and/or biol. mols. can be coupled. The coupled particles may be used for in vitro or in vivo systems involving sepns. steps or the directed movement of coupled mols. to particular sites, including immunol. assays, other biol. assays, biochem. or enzymic reactions, affinity chromatog. purifn., cell sorting, and diagnostic and therapeutic uses. In a further embodiment, described herein are liposome compns. which comprise the substantially uniform size inorg. core coated with an amphipathic org. compd. and further coated with a second amphipathic vesicle-forming lipid. Also disclosed are novel Ph lipid compds. which serve as the vesicle-forming lipid. When the magnetic particles are electromagnetic wave-absorbing surface-modified particles,

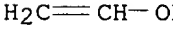
such particles provide for the prepn. of liposome compns. which offer a method for the treatment of cancer, as well as infectious diseases. Electromagnetic wave-absorbing ferrites were prepd. by the hydroxide gel process from FeCl3, CaCl2, and ZnCl2 or from FeCl3, FeCl2, and MnCl2 using NaOH and O2. The ferrite particles were coated with oleic acid and then treated with a second layer of Ph lipid prepd. from 5-aminoisophthalic acid and methoxypolyoxyethylene imidazoly carbonyl. The lipid-coated ferrites and uncoated ferrites (controls) were incubated with MDCK cells grown above a colony of rat neuroblastoma cells and then exposed to a frequency of 20,000 mHz for 3 min. None of the bare ferrite particles were permeable to the MDCK membrane and so had no effect on the cancer cells; the lipid-coated ferrites were permeable, heated up upon exposure to the electromagnetic wave, and killed all the cancer cells. Lipid-coated ferrites (contg. all **Fe**) that did not absorb electromagnetic waves were able to cross the cell barrier but were unable to kill the neuroblastoma cells.

IT **9002-89-5D**, Poly(vinyl alcohol), conjugates with acylated/alkylated benzene **25322-69-4D**, Poly(propylene oxide), conjugates with acylated/alkylated benzene
RL: ANST (Analytical study)
(Ph lipid contg., as coating on uniform-sized inorg. core particles in synthetic vesicles)

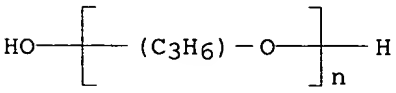
RN 9002-89-5 HCAPLUS
CN Ethenol, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 557-75-5
CMF C2 H4 O

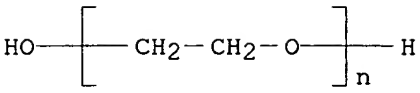


RN 25322-69-4 HCAPLUS
CN Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



IT **25322-68-3D**, Poly(ethylene oxide), conjugates with phosphatidylethanolamine
RL: ANST (Analytical study)
(as second coating on uniform-sized inorg. core particles coated with amphipathic org. compds., for pharmaceutical liposomes)

RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



IT **9002-61-3**, Chorionic gonadotropin
RL: ANST (Analytical study)
(**detn.** of human, by immunoassay using inorg. oxide particles coated with organometallic polymer functionalized to bind antibodies)
RN 9002-61-3 HCAPLUS
CN Gonadotropin, chorionic (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IT **9002-62-4**, Prolactin, **analysis 9002-68-0**, FSH
**9002-71-5**, Thyroid-stimulating hormone **9002-76-0**,
Gastrin **9004-10-8**, Insulin, **analysis**
RL: ANT (Analyte); ANST (Analytical study)
(**detn.** of, by immunoassay using inorg. oxide particles coated with organometallic polymer functionalized to bind antibodies)
RN 9002-62-4 HCAPLUS
CN Prolactin (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 9002-68-0 HCAPLUS
CN Follicle-stimulating hormone (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 9002-71-5 HCAPLUS
CN Thyrotropin (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 9002-76-0 HCAPLUS
CN Gastrin (hormone) (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 9004-10-8 HCAPLUS
CN Insulin (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IT **9002-86-2**, Poly(vinyl chloride) **9003-53-6**, Polystyrene
RL: ANST (Analytical study)
(encapsulating clusters of controlled-size inorg. oxide particles in controllably degradable aggregate beads)
RN 9002-86-2 HCAPLUS
CN Ethene, chloro-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 75-01-4
CMF C2 H3 Cl

$H_2C{=}CH{-}Cl$

RN 9003-53-6 HCAPLUS
CN Benzene, ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 100-42-5
CMF C8 H8

$H_2C{=}CH{-}Ph$

IT **9004-34-6**, Cellulose, uses
RL: ANST (Analytical study)
(inorg. salts contact with inorg. bases across membrane of, in prepn. of controlled-size particles for coating and use in sepns. and assays and inorg. liposomes)
RN 9004-34-6 HCAPLUS
CN Cellulose (8CI, 9CI) (CA INDEX NAME)

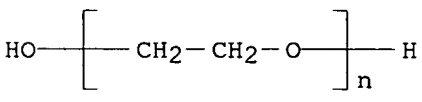
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IT **9002-89-5**, Poly(vinyl alcohol) **25322-68-3**, Poly(ethylene oxide) **25322-69-4**, Poly(propylene oxide)
RL: ANST (Analytical study)
(pharmaceutical liposomes with drug-entrapped uniform-sized inorg. core
particles coated with amphipathic org. compds. and with amphipathic vesicle-forming lipid derivatized with)
RN 9002-89-5 HCAPLUS
CN Ethenol, homopolymer (9CI) (CA INDEX NAME)

CM 1

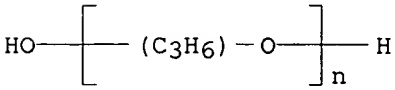
CRN 557-75-5
CMF C2 H4 O

$H_2C{=}CH{-}OH$

RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



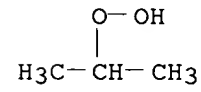
RN 25322-69-4 HCAPLUS
CN Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



IT **154315-73-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, as coating on magnetic particles)
RN 154315-73-8 HCAPLUS
CN 1-Hexanol, 6-amino-, polymer with 1-methylethyl hydroperoxide titanium(4+) salt (9CI) (CA INDEX NAME)

CM 1

CRN 154315-71-6
CMF C3 H8 O2 . 1/3 Ti



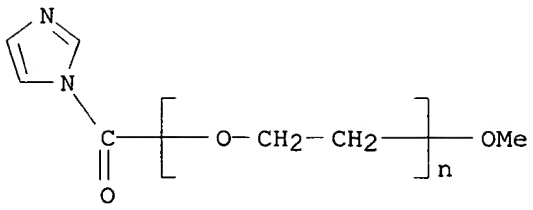
●1/3 Ti(IV)

CM 2

CRN 4048-33-3
CMF C6 H15 N O



IT **86321-17-7**
RL: RCT (Reactant)
(reaction of, with aminoisophthalic acid, in prepn. of Ph lipid)
RN 86321-17-7 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), .alpha.-(1H-imidazol-1-ylcarbonyl)-.omega.-methoxy- (9CI) (CA INDEX NAME)



L24 ANSWER 27 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 1993:577111 HCAPLUS
DN 119:177111
TI Graphite-base solid-state polymeric membrane ion-selective electrodes
IN Shu, Frank R.
PA Beckman Instruments, Inc., USA
SO Eur. Pat. Appl., 12 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

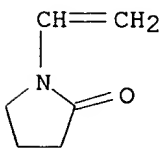
| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | EP 551769 | A1 | 19930721 | EP 1992-311834 | 19921229 |
| | EP 551769 | B1 | 19970716 | | |
| | R: AT, DE, ES, FR, GB, IT | | | | |
| | US 5286365 | A | 19940215 | US 1992-821158 | 19920115 |
| | CA 2085322 | AA | 19930716 | CA 1992-2085322 | 19921214 |
| | AT 155580 | E | 19970815 | AT 1992-311834 | 19921229 |
| | ES 2104861 | T3 | 19971016 | ES 1992-311834 | 19921229 |
| PRAI | US 1992-821158 | | 19920115 | | |

AB An improved solid-state ion-selective electrode (ISE) has greater uniformity of asym. potential and high sensitivity and selectivity for the cation of interest. The electrode comprises (1) a porous element of graphite; (2) an electrochem. ref. in substantially dry form on at least a portion of the element, the ref. comprising (a) an oxidant and (b) a reductant that is the conjugate of the oxidant, the oxidant and reductant being present in about equimolar quantities; and (3) a polymeric membrane comprising an ion-selective ionophore in electrochem. contact with the electrochem. ref. The electrode can be prepd. to be selective for a no. of cations. Methods of prepn. of the electrodes are also described. An ISE for lithium ion and an ISE for ammonium ion are described.

IT **9003-39-8D**, Polyvinylpyrrolidone, iodine **complexes**
RL: ANST (Analytical study)
(electrochem. ref. contg., in ion-selective solid-state electrode)
RN 9003-39-8 HCAPLUS
CN 2-Pyrrolidinone, 1-ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 88-12-0
CMF C6 H9 N O

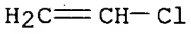


IT **9002-86-2**, Polyvinyl chloride

RL: ANST (Analytical study)
(nonactin-contg. membrane of, in ion-selective solid-state electrode)
RN 9002-86-2 HCAPLUS
CN Ethene, chloro-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 75-01-4
CMF C2 H3 Cl



L24 ANSWER 28 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 1993:208955 HCAPLUS
DN 118:208955
TI Method of measuring **analyte** using dry **analytical** element
IN Kitajima, Masao
PA Fuji Photo Film Co., Ltd., Japan
SO Eur. Pat. Appl., 25 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

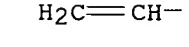
| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | EP 525550 | A1 | 19930203 | EP 1992-112273 | 19920717 |
| | EP 525550 | B1 | 19990317 | | |
| | R: DE, FR, GB | | | | |
| | JP 05026865 | A2 | 19930202 | JP 1991-203738 | 19910719 |
| | JP 2611890 | B2 | 19970521 | | |
| | US 5336599 | A | 19940809 | US 1993-167629 | 19931215 |
| PRAI | JP 1991-203738 | | 19910719 | | |
| | US 1992-916944 | | 19920720 | | |

AB A dry **anal.** element comprises at least a **hydrophilic** polymer layer and a spreading layer laminated onto a water-impermeable support and does not contain the measuring reagents. Test sample is mixed with a measuring reagents soln., the mixt. is applied to the dry **anal.** element, and the reaction occurring is then measured by an optical means. These elements have greatly improved shelf life. Also, the measuring reagents used in conventional wet **anal.** can be used, thus it is not necessary to develop **anal.** elements for each measuring item and one kind of element can be used with many measuring items. **Anal.** elements and assays for blood urea nitrogen, creatinine, cholesterol, and other substances are described and tested.

IT **9003-09-2**, Polyvinylmethyl ether **9003-39-8**, Polyvinylpyrrolidone **25190-97-0**, Vinyl acetate-ethyl acrylate copolymer **144044-79-1 146716-46-3**
RL: ANST (Analytical study)
(dry **anal.** element contg., blood urea nitrogen **detn**. by measuring reagents soln. and)
RN 9003-09-2 HCAPLUS
CN Ethene, methoxy-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 107-25-5
CMF C3 H6 O

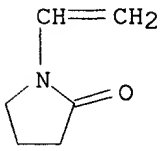


RN 9003-39-8 HCAPLUS

CN 2-Pyrrolidinone, 1-ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

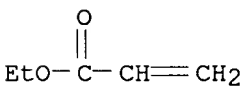
CRN 88-12-0
CMF C6 H9 N O



RN 25190-97-0 HCAPLUS
CN 2-Propenoic acid, ethyl ester, polymer with ethenyl acetate (9CI) (CA INDEX NAME)

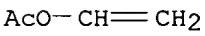
CM 1

CRN 140-88-5
CMF C5 H8 O2



CM 2

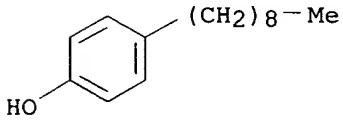
CRN 108-05-4
CMF C4 H6 O2



RN 144044-79-1 HCAPLUS
CN Oxiranemethanol, homopolymer, 4-nonylphenyl ether (9CI) (CA INDEX NAME)

CM 1

CRN 104-40-5
CMF C15 H24 O

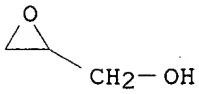


CM 2

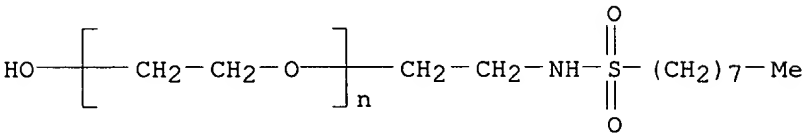
CRN 25722-70-7
CMF (C3 H6 O2)x
CCI PMS

CM 3

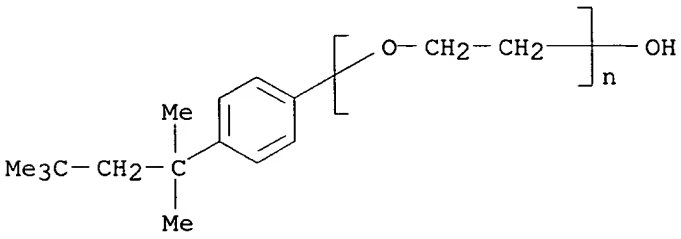
CRN 556-52-5
CMF C3 H6 O2



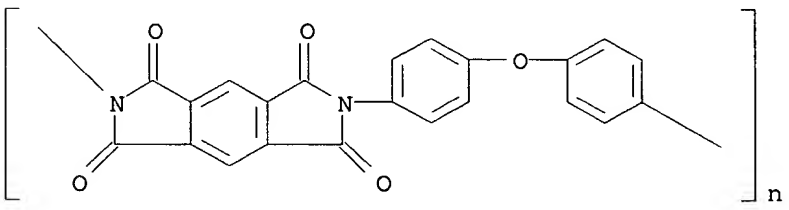
RN 146716-46-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), .alpha.-[2-[(octylsulfonyl)amino]ethyl]-.omega.-hydroxy- (9CI) (CA INDEX NAME)



IT **9002-93-1**, Triton X-100
RL: ANST (Analytical study)
(measuring reagents soln. contg., blood urea nitrogen **detn.** by dry **anal.** element and)
RN 9002-93-1 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), .alpha.-[4-(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy- (9CI) (CA INDEX NAME)



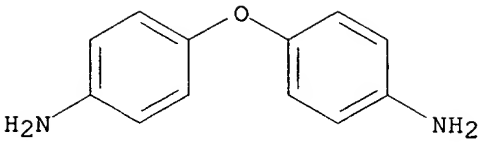
L24 ANSWER 29 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 1993:81956 HCAPLUS
DN 118:81956
TI Characterization of a surface chemically modified polyimide
AU Thomas, Richard R.; Buchwalter, Stephen L.
CS Thomas J. Watson Res. Cent., IBM, Yorktown Heights, NY, 10598, USA
SO Met. Plast. (1992), 2, 293-303
CODEN: MPFAEU
DT Journal
LA English
AB 4,4-Oxydianiline-pyromellitic dianhydride copolymer was surface (subsurface) modified by base hydrolysis followed by protonation to leave a thin film of polyamic acid over a fully cured polyimide. The modified polyimide was characterized by a variety of techniques including XPS, capacity (titratable amic acid groups/vol. of modified polyimide), and contact angle measurements as a function of pH. XPS data clearly showed the formation of the Pd2+-carboxylic acid **complex** on the modified polyimide. Contact angle data, for various pH water, gathered on the modified polyimide indicated the presence of carboxylic acid groups which ionize and are more **hydrophilic** when the pH of the probe liq. was >7.
IT **25036-53-7D**, 4,4-Oxydianiline-pyromellitic dianhydride copolymer, sru, hydrolyzed **25038-81-7D**, 4,4-Oxydianiline-pyromellitic dianhydride copolymer, hydrolyzed
RL: PRP (Properties)
(surface **anal**. and **palladium complexation** of)
RN 25036-53-7 HCAPLUS
CN Poly[(5,7-dihydro-1,3,5,7-tetraoxobenzo[1,2-c:4,5-c']dipyrrole-2,6(1H,3H)-diyl)-1,4-phenyleneoxy-1,4-phenylene] (9CI) (CA INDEX NAME)



RN 25038-81-7 HCAPLUS
CN 1H,3H-Benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone, polymer with 4,4'-oxybis[benzenamine] (9CI) (CA INDEX NAME)

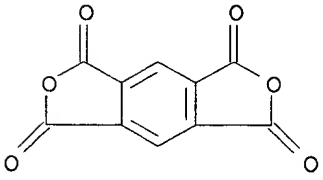
CM 1

CRN 101-80-4
CMF C12 H12 N2 O



CM 2

CRN 89-32-7
CMF C10 H2 O6



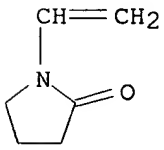
L24 ANSWER 30 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 1993:32234 HCAPLUS
Correction of: 1992:14924
DN 118:32234
Correction of: 116:14924
TI **Determination** of free **magnesium** ion concentration in aqueous solution using 8-hydroxyquinoline immobilized on a nonpolar adsorbent
AU Persaud, Gocool; Cantwell, Frederick F.
CS Dep. Chem., Univ. Alberta, Edmonton, AB, T6G 2G2, Can.
SO Rev. Roum. Med. Interne (1992), 64(1), 89-94
CODEN: RRINEH; ISSN: 0003-2700
DT Journal
LA English
AB The sorbent XAD-oxine was prepd. by covalently attaching the ligand 8-hydroxyquinoline to the hydrophobic macroporous, styrene-divinylbenzene copolymer Amberlite XAD-2. The sorbent was used in the column equilibration/at. absorption method to **det.** the concn. of the species Mg2+ in the presence of kinetically labile **complexes** of **magnesium**. With EDTA and oxalate ligands, which form **hydrophilic complexes**, the method is selective for Mg2+ (i.e., the **complexes** do not adsorb). With picolinate ligand, which forms more hydrophobic **complexes**, the **magnesium** -picolinate **complexes** adsorb along with Mg2+. Therefore, ligands bound to hydrophobic substrates are considered less useful for measuring free metal ion concns. than are those bound to **hydrophilic** substrates.
IT **9060-05-3D**, Amberlite XAD-2, reaction product with hydroxyquinoline
RL: ANST (Analytical study)
(as adsorbent, for **detn.** of free **magnesium** in resins of kinetically label **magnesium complexes**)
RN 9060-05-3 HCAPLUS
CN Amberlite XAD 2 (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L24 ANSWER 31 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 1992:572661 HCAPLUS
DN 117:172661
TI Measurement of absorption spectra and water sorption of **hydrophilic** polymer films containing **cobalt** chloride
AU Otsuki, Soichi; Adachi, Kimihiro
CS Gov. Ind. Res. Inst. Osaka, Ikeda, 563, Japan
SO Kobunshi Ronbunshu (1992), 49(8), 697-702
CODEN: KBRBA3; ISSN: 0386-2186
DT Journal
LA Japanese
AB **Hydrophilic** polymer films contg. CoCl2 are investigated as bases for an optical humidity **detection** technique. In poly(vinylpyrrolidone) films, a polar group of the polymer is coordinated to a **Co** ion; the group is replaced by a water mol. when the film is exposed to moisture, as judged by a red shift of about 8 nm (max.) at the absorption max. of the films. An absorbance decrease for the film on increasing relative humidity indicated that the 4-coordinate form of the **Co** ion changes to the 6-coordinate form. Moreover, the stiffness of the dry film suggested crosslinking of the polymer by double coordination of the polar group to the **Co** ion. In hydroxypropylcellulose films, an absorbance increment with no shift of absorption max. during the desiccation process revealed that the coordination between the polymer and the **Co** ion is absent and that the polymer serves only as a support of CoCl2. Water contents of both polymer films are drastically enhanced in the higher humidity range but are not much influenced in the lower humidity range by increasing the content of CoCl2 in the films.
IT **9003-39-8D**, Poly(vinylpyrrolidone), **cobalt complexes**
RL: PRP (Properties)
(films, absorption spectra and water sorption of, structure in relation to)
RN 9003-39-8 HCAPLUS
CN 2-Pyrrolidinone, 1-ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

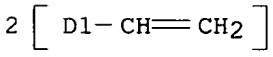
CRN 88-12-0
CMF C6 H9 N O



L24 ANSWER 32 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 1992:542588 HCAPLUS
DN 117:142588
TI Synthesis of ligand exchange chromatographic supports with polyacrylamide matrix and its application to the separation of amino acids
AU Yan, Husheng; Cheng, Xiaohui; He, Binglin
CS Inst. Polymer Chem., Nankai Univ., Tianjin, 300071, Peop. Rep. China
SO Gaodeng Xuexiao Huaxue Xuebao (1992), 13(2), 270-3
CODEN: KTHPDM; ISSN: 0251-0790
DT Journal
LA Chinese
AB The present paper reports the synthesis of chelate resins with **hydrophilic** polyacrylamide matrix and ligands which form pentacyclic chelates with cupric ions. The resins were prepd. by refluxing polyamines with Me acrylate-ethylene glycol bis(Me acrylate)-divinylbenzene copolymer and followed by reaction with ClCH2COOH. The resins coordinated with Cu2+ were used as the ligand-exchange chromatog. supports for the sepn. of neutral amino acids. The chromatog. behavior was compared with those on the columns packed with other two types of chelate resins in Cu2+ form (polyacrylic acid and iminodiacetate modified polystyrene resin). Some of the resins synthesized in this paper have the best sepn. efficients. The effect of the chromatog. conditions on the sepn. was studied. The mechanism of the sepn. is discussed.
IT **143336-98-5P 143336-99-6P 143337-00-2P 143440-94-2P**
RL: PRP (Properties); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation)
(prepn. and characterization of)
RN 143336-98-5 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with diethenylbenzene, 1,2-ethanediamine and methyl 2-propenoate (9CI) (CA INDEX NAME)

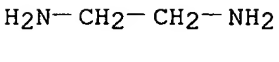
CM 1

CRN 1321-74-0
CMF C10 H10
CCI IDS
CDES 8:ID



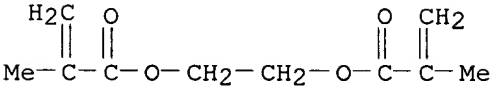
CM 2

CRN 107-15-3
CMF C2 H8 N2



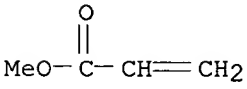
CM 3

CRN 97-90-5
CMF C10 H14 O4



CM 4

CRN 96-33-3
CMF C4 H6 O2



RN 143336-99-6 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with N-(2-aminoethyl)-1,2-ethanediamine, diethenylbenzene and methyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 1321-74-0
CMF C10 H10
CCI IDS
CDES 8:ID

2 [ D1— CH═ $CH_2$ ]

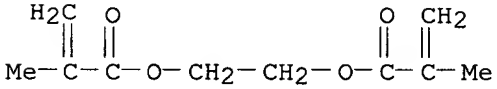
CM 2

CRN 111-40-0
CMF C4 H13 N3

$H_2N$— $CH_2$— $CH_2$— NH— $CH_2$— $CH_2$— $NH_2$

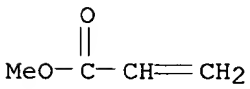
CM 3

CRN 97-90-5
CMF C10 H14 O4



CM 4

CRN 96-33-3
CMF C4 H6 O2



RN 143337-00-2 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with N,N'-bis(2-aminoethyl)-1,2-ethanediamine, diethenylbenzene and methyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

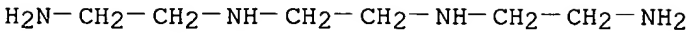
CRN 1321-74-0
CMF C10 H10

CCI IDS
CDES 8:ID

2 [ D1—CH═CH2 ]

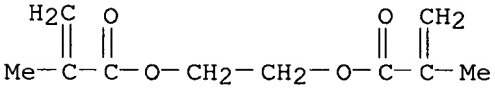
CM 2

CRN 112-24-3
CMF C6 H18 N4



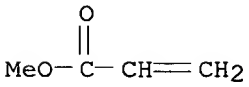
CM 3

CRN 97-90-5
CMF C10 H14 O4



CM 4

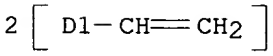
CRN 96-33-3
CMF C4 H6 O2



RN 143440-94-2 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with N-(2-aminoethyl)-N'-[2-[(2-aminoethyl)amino]ethyl]-1,2-ethanediamine, diethenylbenzene and methyl 2-propenoate (9CI) (CA INDEX NAME)

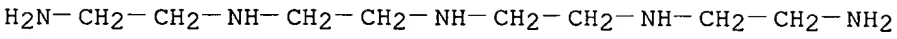
CM 1

CRN 1321-74-0
CMF C10 H10
CCI IDS
CDES 8:ID



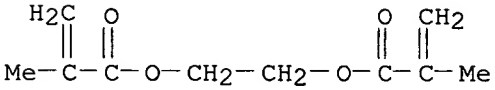
CM 2

CRN 112-57-2
CMF C8 H23 N5



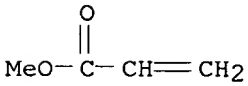
CM 3

CRN 97-90-5
CMF C10 H14 O4



CM 4

CRN 96-33-3
CMF C4 H6 O2



IT **143336-98-5DP**, reaction product with chloroacetic acid, **copper complexes**
RL: SPN (Synthetic preparation); ANST (Analytical study); PREP

(Preparation)
(prepn. and use of, as stationary phase for sepn. of amino acids by ligand-exchange liq. chromatog.)

RN 143336-98-5 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with diethenylbenzene, 1,2-ethanediamine and methyl 2-propenoate (9CI) (CA INDEX NAME)

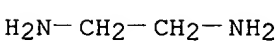
CM 1

CRN 1321-74-0
CMF C10 H10
CCI IDS
CDES 8:ID

2 [ D1-CH=CH2 ]

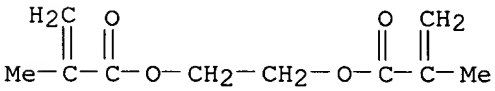
CM 2

CRN 107-15-3
CMF C2 H8 N2



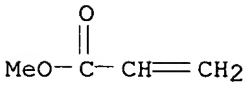
CM 3

CRN 97-90-5
CMF C10 H14 O4



CM 4

CRN 96-33-3
CMF C4 H6 O2



IT **143336-99-6DP**, reaction product with chloroacetic acid, **copper complexes 143337-00-2DP**, reaction product with chloroacetic acid, **copper complexes 143440-94-2DP**, reaction product with chloroacetic acid, **copper complexes**
RL: SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation)
(prepn. and use of, as stationary phase for sepn. of amino acids by liq. chromatog.)

RN 143336-99-6 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with N-(2-aminoethyl)-1,2-ethanediamine, diethenylbenzene and methyl 2-propenoate (9CI) (CA INDEX NAME)

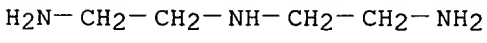
CM 1

CRN 1321-74-0
CMF C10 H10
CCI IDS
CDES 8:ID



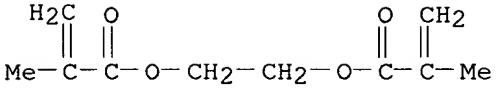
CM 2

CRN 111-40-0
CMF C4 H13 N3



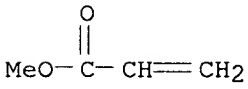
CM 3

CRN 97-90-5
CMF C10 H14 O4



CM 4

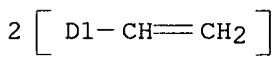
CRN 96-33-3
CMF C4 H6 O2



RN 143337-00-2 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with N,N'-bis(2-aminoethyl)-1,2-ethanediamine, diethenylbenzene and methyl 2-propenoate (9CI) (CA INDEX NAME)

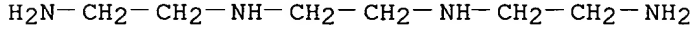
CM 1

CRN 1321-74-0
CMF C10 H10
CCI IDS
CDES 8:ID



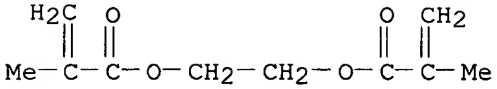
CM 2

CRN 112-24-3
CMF C6 H18 N4



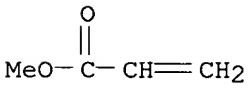
CM 3

CRN 97-90-5
CMF C10 H14 O4



CM 4

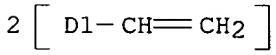
CRN 96-33-3
CMF C4 H6 O2



RN 143440-94-2 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with N-(2-aminoethyl)-N'-[2-[(2-aminoethyl)amino]ethyl]-1,2-ethanediamine, diethenylbenzene and methyl 2-propenoate (9CI) (CA INDEX NAME)

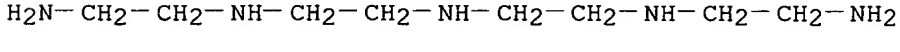
CM 1

CRN 1321-74-0
CMF C10 H10
CCI IDS
CDES 8:ID



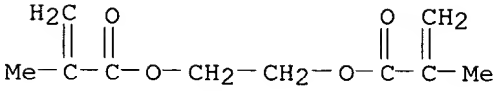
CM 2

CRN 112-57-2
CMF C8 H23 N5



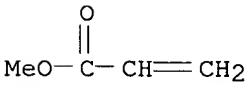
CM 3

CRN 97-90-5
CMF C10 H14 O4



CM 4

CRN 96-33-3
CMF C4 H6 O2



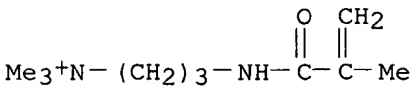
L24 ANSWER 33 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 1992:422859 HCAPLUS
DN 117:22859
TI Apparatus for continuously monitoring a plurality of chemical **analytes** through a single optical fiber, and method for its manufacture
IN Yim, Jeffrey B.; Khalil, Gamal Eddin; Pihl, Roger J.; Huss, Bradley D.; Vurek, Gerald G.
PA Abbott Laboratories, USA
SO U.S., 13 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | US 5098659 | A | 19920324 | US 1990-587234 | 19900924 |
| | AU 9181502 | A1 | 19920326 | AU 1991-81502 | 19910730 |
| | AU 646278 | B2 | 19940217 | | |
| | EP 477501 | A2 | 19920401 | EP 1991-112874 | 19910731 |
| | EP 477501 | A3 | 19920708 | | |
| | R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, NL, SE | | | | |
| | CA 2050738 | AA | 19920325 | CA 1991-2050738 | 19910905 |
| | JP 04305143 | A2 | 19921028 | JP 1991-240927 | 19910920 |

PRAI US 1990-587234 19900924
OS MARPAT 117:22859
AB A multi-**analyte** probe comprises an optical fiber which transmits light bidirectionally at multiple wavelengths, an optical sensor attached distally thereto which contains an indicator for a 1st **analyte**, and a polymer matrix contg. an indicator for a 2nd **analyte** which is disposed adjacent to the distal end of the optical fiber and to the optical sensor. The 1st indicator absorbs light at a 1st wavelength proportionally to the concn. of the 1st **analyte**, and the 2nd indicator emits light at a 2nd wavelength proportionally to the concn. of the 2nd **analyte**. The probe may constitute a CO2/O2 or pH/O2 sensor for monitoring blood gases. The CO2 sensor comprises a pellet contg. NaHCO3, indicator (phenol red), and a polymer matrix attached to the distal end of the optical fiber by one surface and having the other surface covered by light-reflective material (e.g. **Au** foil). The pH sensor is a similar pellet contg. phenol red and polymer matrix. O2 is detected with an insol. phosphorescent porphyrin indicator, e.g. **Pt** tetraphenylporphyrin, dispersed in a polymer matrix. Construction details and schematic drawings of the probe are provided.
IT **99581-76-7D**, conjugates with indicators
RL: ANST (Analytical study)
(in optrode biosensor, for carbon dioxide and pH **detn**. in blood)
RN 99581-76-7 HCAPLUS
CN 1-Propanaminium, N,N,N-trimethyl-3-[(2-methyl-1-oxo-2-propenyl)amino]-, chloride, polymer with methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

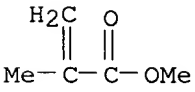
CM 1

CRN 51410-72-1
CMF C10 H21 N2 O . Cl



CM 2

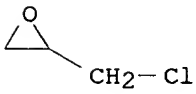
CRN 80-62-6
CMF C5 H8 O2



L24 ANSWER 34 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 1992:36616 HCAPLUS
DN 116:36616
TI Cerium as amplifying agent - an improved cerium-perhydroxide-DAB-**nickel** (Ce/Ce-H2O2-DAB-**Ni**) method for the visualization of cerium phosphate in resin sections
AU Halbhuber, K. J.; Hulstaert, C. E.; Gerrits, P.; Moeller, U.; Kalicharan, D.; Feuerstein, H.
CS Inst. Anat., Friedrich Schiller Univ., Jena, D-O-6900, Germany
SO Cell. Mol. Biol. (1991), 37(3), 295-307
CODEN: CMBID4; ISSN: 0145-5680
DT Journal
LA English
AB A new visualization (Ce/Ce-H2O2-DAB-**Ni**) procedure for cerium (Ce III) phosphate in semithin and ultrathin plastic sections (Epon 812, Lowicryl K4M, glycol methacrylate) or rat kidney tissues that had been incubated before embedding for the demonstration of phosphatases (alk. and acid phosphatase, 51-nucleotidase, **Mg**-dependent ATPase) is described. For this purpose the hydrophobic Epon resin was removed in NaOH-ethanol soln., whereas the **hydrophilic** Lowicryl and methacrylate sections did not required any etching. The primary reaction product Ce III-phosphate was amplified in a Ce III-citrate soln., subsequently oxidized with H2O2 and then visualized in a H2O2 contg. DAB-**nickel** medium (Ce IV-perhydroxy induced DAB polymn. principle). The method yielded a very clear localization of enzyme activity. The final reaction product (DAB-**nickel** polymers) in 0.5-2.0 .mu.m semithin sections is blue-black; the background staining is completely prevented. An increase of the staining contrast was obtained by posttreatment with OsO4 (osmium black formation). Furthermore, the enzyme reaction product could be demonstrated in 40-nm thick ultrathin sections by silver intensification, which utilized with high argyrophilia of the polymd. DAB-**nickel complexes**. The procedure replaces the earlier published technique.
IT **25038-04-4**, EPON 812 **84137-04-2**, Lowicryl K4M
RL: ANST (Analytical study)
(kidney tissue embedded in, for phosphatase **detection** by light microscopy, cerium-peroxide-DAB-**nickel** improved method for)
RN 25038-04-4 HCAPLUS
CN 1,2,3-Propanetriol, polymer with (chloromethyl)oxirane (9CI) (CA INDEX NAME)

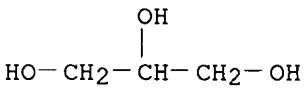
CM 1

CRN 106-89-8
CMF C3 H5 Cl O



CM 2

CRN 56-81-5
CMF C3 H8 O3



RN 84137-04-2 HCAPLUS
CN Lowicryl K 4M (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

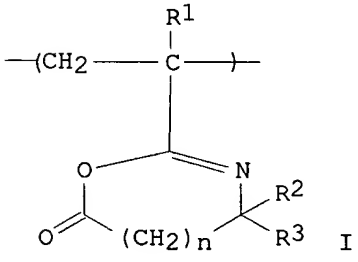
L24 ANSWER 35 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 1992:14924 HCAPLUS
DN 116:14924
TI **Determination** of free **magnesium** ion concentration in aqueous solution using 8-hydroxyquinoline immobilized on a nonpolar adsorbent
AU Persaud, Gocool; Cantwell, Frederick F.
CS Dep. Chem., Univ. Alberta, Edmonton, AB, T6G 2G2, Can.
SO Anal. Chem. (1992), 64(1), 89-94
CODEN: ANCHAM; ISSN: 0003-2700
DT Journal
LA English
AB The sorbent XAD-oxine was prepd. by covalently attaching the ligand 8-hydroxyquinoline to the hydrophobic macroporous, styrene-divinylbenzene copolymer Amberlite XAD-2. The sorbent was used in the column equilibration/at. absorption method to **det.** the concn. of the species Mg2+ in the presence of kinetically labile **complexes** of **magnesium**. With EDTA and oxalate ligands, which form **hydrophilic complexes**, the method is selective for Mg2+ (i.e., the **complexes** do not sorb). With picolinate ligand, which forms more hydrophobic **complexes**, the **magnesium** -picolinate **complexes** sorb along with Mg2+. Therefore, ligands bound to hydrophobic substrates are considered less useful for measuring free metal ion concns. than are those bound to **hydrophilic** substrates.
IT **9060-05-3D**, Amberlite XAD-2, reaction product with chloromethylated hydroxyquinoline
RL: ANST (Analytical study)
(adsorbent, for **detn.** of free **magnesium** ion in presence of kinetically labile **complexes** of **magnesium**)
RN 9060-05-3 HCAPLUS
CN Amberlite XAD 2 (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L24 ANSWER 36 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 1991:144291 HCAPLUS
DN 114:144291
TI Polymeric supports containing azlactone functionality and their preparation
IN Heilmann, Steven M.; Rasmussen, Jerald K.; Krepski, Larry R.; Milbrath, Dean S.; Coleman, Patrick L.; Walker, Margaret M.
PA Minnesota Mining and Mfg. Co., USA
SO Eur. Pat. Appl., 33 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 4

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | EP 392735 | A2 | 19901017 | EP 1990-303611 | 19900404 |
| | EP 392735 | A3 | 19920212 | | |
| | EP 392735 | B1 | 19960717 | | |
| | R: BE, CH, DE, ES, FR, GB, IT, LI, NL, SE | | | | |
| | US 5292840 | A | 19940308 | US 1989-335835 | 19890410 |
| PRAI | US 1989-335835 | 19890410 | | | |
| | US 1987-25605 | 19870313 | | | |
| | US 1988-158258 | 19880219 | | | |

GI



I

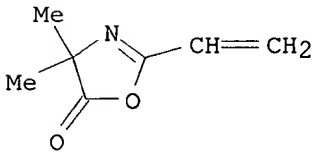
AB **Hydrophilic** azlactone-functional polymers which contain units I (R1 = H, Me; R2, R3 = C1-14 alkyl, C3-14 cycloalkyl, C5-12 aryl, C6-26 heteroaryl, or CR2R3 is a C4-12 carbocyclic ring; n = 0, 1) provide novel supports for **complexing** agents, reagents, chromatog. sorbents, and enzymes or other biol. active agents. The supports are membranes, films, or coatings on a substrate when they contain 0-99 mol parts crosslinking monomer, or beads when they contain 0-5 mol parts crosslinking monomer. Thus, 50.4:44.6:7.8 N-acryloylmethylalanine Na salt-dimethylacrylamide-methylenebisacrylamide copolymer (II) was prepd. by NH4 persulfate polymn. under N in heptane-CCl4 and aq. NaOH. Sorbitan sesquioleate and 1,2-bis(dimethylamino)ethane were added at 21-33.degree., and stirring for 3 h gave spherical beads. Cyclization of 15.1 g II beads

at 100.degree. with 100 mL Ac2O gave the resp. 46:46:8 azlactone-functional copolymer (III). Beads of 34.4:62.2:3.3 (mol %) III in a centrifuge tube were covered with 100 .mu.L of a radio-labeled (125I) protein soln. and shaken 90 min. The tube was centrifuged, and the supernatant washed and collected. The beads showed 2.54 .mu.g protein/10 **mg** beads, vs. 0.14 .mu.g protein/10 **mg** beads for a control.

IT **132743-60-3P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(beads, prepn. of)
RN 132743-60-3 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with 2-ethenyl-4,4-dimethyl-5(4H)-oxazolone (9CI) (CA INDEX NAME)

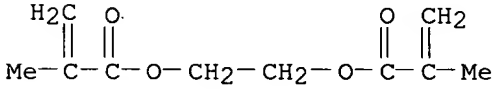
CM 1

CRN 29513-26-6
CMF C7 H9 N O2



CM 2

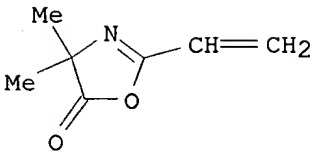
CRN 97-90-5
CMF C10 H14 O4



IT **129825-50-9P**
RL: PREP (Preparation)
(beads, prepn. of, as reagent supports)
RN 129825-50-9 HCAPLUS
CN 2-Propenamide, N,N'-methylenebis-, polymer with 2-ethenyl-4,4-dimethyl-5(4H)-oxazolone (9CI) (CA INDEX NAME)

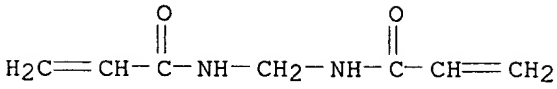
CM 1

CRN 29513-26-6
CMF C7 H9 N O2



CM 2

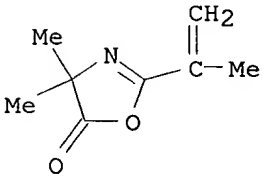
CRN 110-26-9
CMF C7 H10 N2 O2



IT **27416-12-2P 32241-35-3P 132743-61-4P**
**132763-34-9P**
RL: PREP (Preparation)
(beads, prepn. of, by dispersion polymn.)
RN 27416-12-2 HCAPLUS
CN 5(4H)-Oxazolone, 4,4-dimethyl-2-(1-methylethenyl)-, homopolymer (9CI) (CA
INDEX NAME)

CM 1

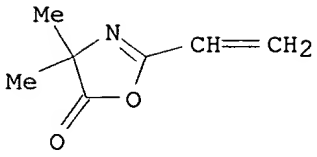
CRN 15926-34-8
CMF C8 H11 N O2



RN 32241-35-3 HCAPLUS
CN 4(5H)-Oxazolone, 2-ethenyl-4,4-dimethyl-, homopolymer (9CI) (CA INDEX
NAME)

CM 1

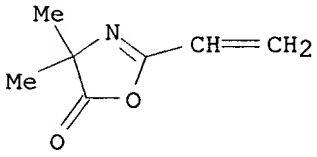
CRN 29513-26-6
CMF C7 H9 N O2



RN 132743-61-4 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with 2-ethenyl-4,4-dimethyl-5(4H)-oxazolone and methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

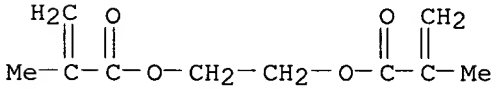
CM 1

CRN 29513-26-6
CMF C7 H9 N O2



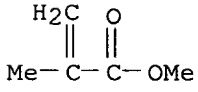
CM 2

CRN 97-90-5
CMF C10 H14 O4



CM 3

CRN 80-62-6
CMF C5 H8 O2

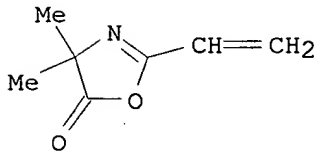


RN 132763-34-9 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with

2-ethenyl-4,4-dimethyl-5(4H)-oxazolone and 2-hydroxyethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

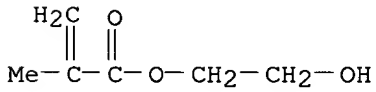
CM 1

CRN 29513-26-6
CMF C7 H9 N O2



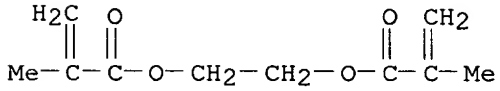
CM 2

CRN 868-77-9
CMF C6 H10 O3



CM 3

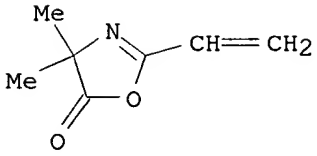
CRN 97-90-5
CMF C10 H14 O4



IT **132763-35-0**
RL: USES (Uses)
(coating of, on glass beads)
RN 132763-35-0 HCAPLUS
CN 5(4H)-Oxazolone, 2-ethenyl-4,4-dimethyl-, polymer with ethenylbenzene, graft (9CI) (CA INDEX NAME)

CM 1

CRN 29513-26-6
CMF C7 H9 N O2



CM 2

CRN 100-42-5
CMF C8 H8

$H_2C{=}CH{-}Ph$

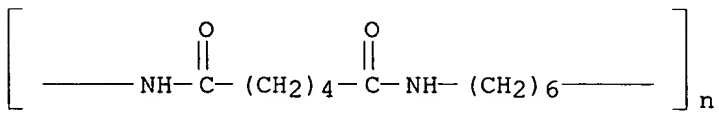
IT **9002-88-4**, Polyethylene
RL: USES (Uses)
(coating of, with partially hydrolyzed azlactone-functional polymer supports)
RN 9002-88-4 HCAPLUS
CN Ethene, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 74-85-1
CMF C2 H4

$H_2C{=}CH_2$

IT **32131-17-2**, Nylon 66, uses and miscellaneous
RL: USES (Uses)
(membranes, coating of, with azlactone-functional polymers)
RN 32131-17-2 HCAPLUS
CN Poly[imino(1,6-dioxo-1,6-hexanediyl)imino-1,6-hexanediyl] (9CI) (CA INDEX NAME)

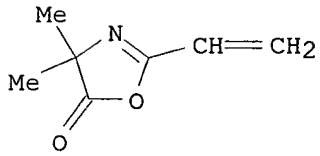


IT **81094-98-6P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and coating of, on polystyrene wells)
RN 81094-98-6 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with

2-ethenyl-4,4-dimethyl-5(4H)-oxazolone (9CI) (CA INDEX NAME)

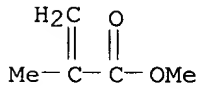
CM 1

CRN 29513-26-6
CMF C7 H9 N O2



CM 2

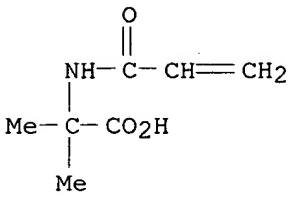
CRN 80-62-6
CMF C5 H8 O2



IT **116000-32-9P**
RL: RCT (Reactant); PREP (Preparation)
(prepn. and cyclization of, for polymer-supported reagents)
RN 116000-32-9 HCAPLUS
CN Alanine, 2-methyl-N-(1-oxo-2-propenyl)-, monosodium salt, polymer with N,N-dimethyl-2-propenamide and N,N'-methylenebis[2-propenamide] (9CI) (CA
INDEX NAME)

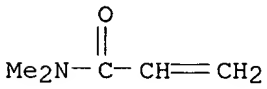
CM 1

CRN 116000-31-8
CMF C7 H11 N O3 . Na



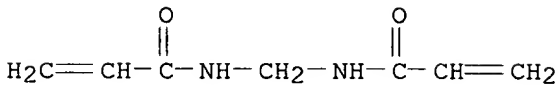
CM 2

CRN 2680-03-7
CMF C5 H9 N O



CM 3

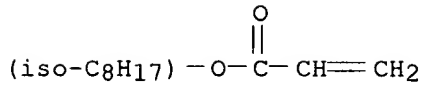
CRN 110-26-9
CMF C7 H10 N2 O2



IT **132774-05-1P**
RL: PREP (Preparation)
(prepn. of, as stabilizer in prepn. of azlactone-functional polymer supports)
RN 132774-05-1 HCAPLUS
CN 2-Propenoic acid, isooctyl ester, polymer with 2-ethenyl-4,4-dimethyl-5(4H)-oxazolone (9CI) (CA INDEX NAME)

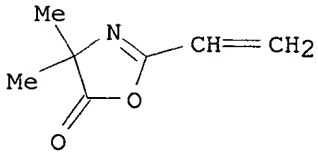
CM 1

CRN 29590-42-9
CMF C11 H20 O2
CCI IDS
CDES 8:ID,ISO



CM 2

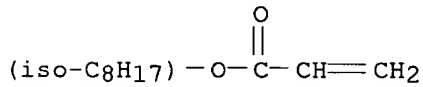
CRN 29513-26-6
CMF C7 H9 N O2



IT **9017-68-9 37383-10-1 132774-09-5**
**132801-50-4**
RL: USES (Uses)
(stabilizer, in prepn. of azlactone-functional polymer supports)
RN 9017-68-9 HCAPLUS
CN 2-Propenoic acid, polymer with isooctyl 2-propenoate (9CI) (CA INDEX NAME)

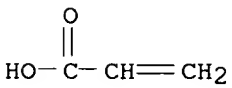
CM 1

CRN 29590-42-9
CMF C11 H20 O2
CCI IDS
CDES 8:ID,ISO



CM 2

CRN 79-10-7
CMF C3 H4 O2

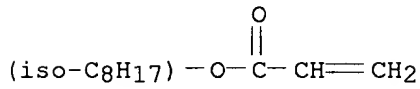


RN 37383-10-1 HCAPLUS

CN 2-Propenoic acid, isooctyl ester, polymer with sodium 2-propenoate (9CI) (CA INDEX NAME)

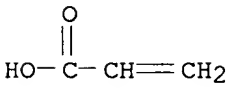
CM 1

CRN 29590-42-9
CMF C11 H20 O2
CCI IDS
CDES 8:ID,ISO



CM 2

CRN 7446-81-3
CMF C3 H4 O2 . Na

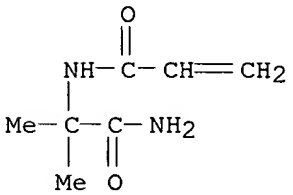


● Na

RN 132774-09-5 HCAPLUS
CN 2-Propenoic acid, isooctyl ester, polymer with N-(2-amino-1,1-dimethyl-2-oxoethyl)-2-propenamide (9CI) (CA INDEX NAME)

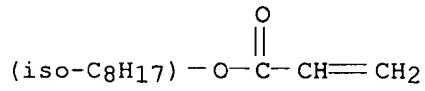
CM 1

CRN 132774-08-4
CMF C7 H12 N2 O2



CM 2

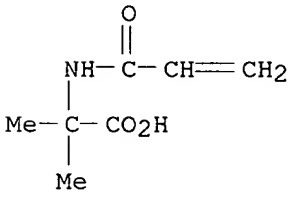
CRN 29590-42-9
CMF C11 H20 O2
CCI IDS
CDES 8:ID,ISO



RN 132801-50-4 HCAPLUS
CN Alanine, 2-methyl-N-(1-oxo-2-propenyl)-, monosodium salt, polymer with isooctyl 2-propenoate (9CI) (CA INDEX NAME)

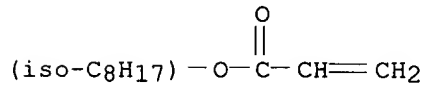
CM 1

CRN 116000-31-8
CMF C7 H11 N O3 . Na



CM 2

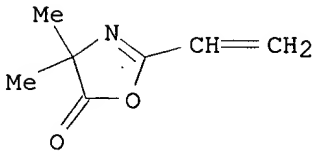
CRN 29590-42-9
CMF C11 H20 O2
CCI IDS
CDES 8:ID,ISO



IT **132763-33-8P**
RL: PREP (Preparation)
(supports, prepn. and reaction of)
RN 132763-33-8 HCAPLUS
CN 2-Propenamide, N,N-dimethyl-, polymer with 2-ethenyl-4,4-dimethyl-5(4H)-oxazolone and N,N'-methylenebis[2-propenamide] (9CI) (CA INDEX NAME)

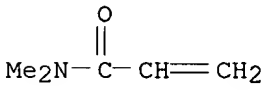
CM 1

CRN 29513-26-6
CMF C7 H9 N O2



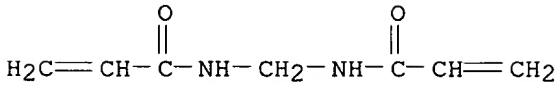
CM 2

CRN 2680-03-7
CMF C5 H9 N O



CM 3

CRN 110-26-9
CMF C7 H10 N2 O2



L24 ANSWER 37 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 1991:114134 HCAPLUS
DN 114:114134
TI Anion-selective membrane electrode based on bis(diphenylphosphino) alkane-
**copper**(II) **complexes**
AU Kamata, Satsuo; Nomura, Shinji; Ohashi, Kousaburo
CS Fac. Eng., Kagoshima Univ., Kagoshima, 890, Japan
SO Bunseki Kagaku (1990), 39(11), 677-81
CODEN: BNSKAK; ISSN: 0525-1931
DT Journal
LA Japanese
AB Poly(vinyl chloride) (PVC) membrane and membrane-coated C rod anion-selective electrodes were made by using the **Cu**(II) **complexes** of bis(diphenylphosphino)ethane (BDPPE) and bis(diphenylphosphino)propane (BDPPP) as new anion sensor materials. The PVC sensing membrane was made from THF soln. contg. sensor materials 3, o-nitrophenyl octyl ether (plasticizer) 55, and PVC 42 wt.%. The chloride ion selective membrane electrode showed a Nernstian slope of 55-58 mV/decade and a response time of 5 s at pH range of 3.7-9.0. Although the order of selectivity coeff. value for foreign anions followed the Hofmeister series, the interfering effect of **hydrophile** anions for this chloride ion selective electrode was rather weak, compared to that of the electrodes based on quaternary ammonium salt or org. tin compds. BDPPE forms a 1:2 Cu2+/ligand **complex** and the **co**-anion was exchanged to produce a potential response. The membrane-coated carbon rod electrodes for Cl-, NO3-, and ClO4- exhibited Nernstian slopes of 56-57 mV/decade. The order of their **detection** limits was Cl- > NO3- > ClO4-. The ClO4- electrode showed the best **detection** limit, 10-7 mol dm-3.
IT **9002-86-2**, Poly(vinyl chloride)
RL: ANST (Analytical study)
(membranes, anion-selective electrode, contg. phosphinoalkane **copper complexes**)
RN 9002-86-2 HCAPLUS
CN Ethene, chloro-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 75-01-4
CMF C2 H3 Cl

$H_2C{=}CH{-}Cl$

L24 ANSWER 38 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 1991:88277 HCAPLUS
DN 114:88277
TI Carboxyl acidity of aquatic organic matter: possible systematic errors introduced by XAD extraction
AU Shuman, M. S.
CS Dep. Environ. Sci. Eng., Univ. North Carolina, Chapel Hill, NC, 27599-7400, USA
SO Life Sci. Res. Rep. (1990), 48(Org. Acids Aquat. Ecosyst.), 97-109
CODEN: LSRPD8; ISSN: 0340-8132
DT Journal
LA English
AB Literature values of carboxyl acidity are compared and found to be exceedingly uniform for XAD exts. of aquatic dissolved org. matter (DOM). Although the database for drawing any conclusion is incomplete, there is some evidence indicating that these values are lower than those obtained from anion exchange resin exts. or from samples that have not undergone an extn. step. It is suggested that XAD resins select a uniform fraction of the DOM, which gives the illusion of uniform chem. properties, and that the acidic fraction that is not extd., the **hydrophilic** acid fraction carries important and differentiating information that is ignored. Relying principally on XAD exts. as surrogates for investigations of native aquatic DOM chem. may **lead** to serious errors in modeling DOM for acidity or metal **complexation**, and may bias our understanding of how the chem. properties of DOM vary over time and space. Recommendations are made to study whole water samples and the **hydrophilic** acid fraction to test these hypotheses.
IT **9060-05-3**, Amberlite XAD 2 **11104-40-8**, Amberlite XAD 8
**37380-43-1**, Amberlite XAD 7
RL: OCCU (Occurrence)
(carboxyl acidity **detn**. of water by extn. with, systematic errors in)
RN 9060-05-3 HCAPLUS
CN Amberlite XAD 2 (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 11104-40-8 HCAPLUS
CN Amberlite XAD 8 (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 37380-43-1 HCAPLUS
CN Amberlite XAD 7 (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

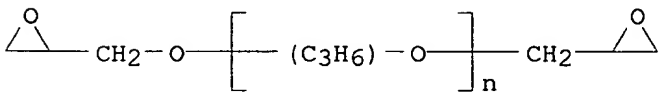
L24 ANSWER 39 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 1991:16686 HCAPLUS
DN 114:16686
TI Preconcentration of trace elements from aqueous solution with Amberlite XAD-4
AU Yang, Xiaogen; Jackwerth, E.
CS Fac. Chem., Ruhr-Univ., Bochum, Fed. Rep. Ger.
SO Fenxi Huaxue (1990), 18(7), 613-17
CODEN: FHHHDT; ISSN: 0253-3820
DT Journal
LA Chinese
AB The adsorptive behavior of 16 trace elements as hydroxides, chelates of pyrrolidinyldithiocarbamate, and chelates of Xylenol Orange from aq. soln. on Amberlite XAD-4 resin was examd. by using a short column. The dependence of the adsorbability of slightly water sol. metal compds. on the pH value of the soln. is very similar to that with activated carbon as the adsorbent. The chelates of Xylenol Orange contg. **hydrophilic** groups are not sorbed by the resin. Addnl., the elution of adsorbed trace compds. and the **detn.** of trace elements in acetone soln. by flame at. absorption spectrometry are discussed.
IT **37380-42-0**, Amberlite XAD-4
RL: ANST (Analytical study)
(adsorption of trace elements as chelates and hydroxide on)
RN 37380-42-0 HCAPLUS
CN Amberlite XAD 4 (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L24 ANSWER 40 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 1990:627465 HCAPLUS
DN 113:227465
TI Effect of resin use in the post-embedding procedure on immunoelectron microscopy of membranous antigens, with special reference to sensitivity
AU Shida, Hisato; Ohga, Rie
CS Med. Sch., Univ. Yamanashi, Yamanashi, 409-38, Japan
SO J. Histochem. Cytochem. (1990), 38(11), 1687-91
CODEN: JHCYAS; ISSN: 0022-1554
DT Journal
LA English
AB To investigate quant. the effect of resins on the sensitivity of immunoelectron microscopy of membranous antigen, ultra-thin sections of bovine epithelial tissue embedded in five different kinds of resins [JB-4 (JB4), LR **Gold** (LRG), Lowicryl K4M (K4M), Quetol 812 (Q812), and Spurr's (Spurr) resin] were labeled specifically with anti-desmosomal glycoprotein I(DGI) antibody followed by protein A-**gold** (PAG) conjugates. When the labeling intensity expressed as the no. of PAG particles per 500-nm length of the desmosomal region along the membrane was compared, three **hydrophilic** resins (JB4, LRG, and K4M) showed much greater levels of labeling intensity than did epoxy resins (Q812 and Spurr), which had a neg. value. The three **hydrophilic** resins showed only minor differences in their levels of labeling intensity. The intensity obtained with JB4, which was the highest of the three, was further increased by pretreatment of the ultra-thin sections with Me methacrylate monomer (MM) for 5 min. On the basis of these results wide applicability of this new technique for membranous antigens, which have been difficult to detect pos. by any previously employed techniques, is suggested.
IT **52368-54-4 84137-04-2**, Lowicryl K4M **122157-68-0**, JB-4
RL: ANST (Analytical study)
(immunoelectron microscopy of membranous antigens response to)
RN 52368-54-4 HCAPLUS
CN 2,5-Furandione, 3-(4,6-dimethyl-2-heptenyl)dihydro-, polymer with .alpha.-(oxiranylmethyl)-.omega.-(oxiranylmethoxy)poly[oxy(methyl-1,2-ethanediyl)] and 3-oxiranyl-7-oxabicyclo[4.1.0]heptane (9CI) (CA INDEX NAME)

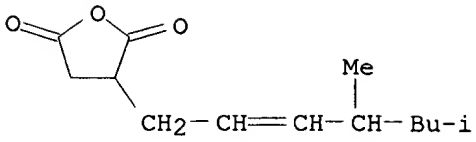
CM 1

CRN 26142-30-3
CMF (C3 H6 O)n C6 H10 O3
CCI IDS, PMS
CDES 8:ID



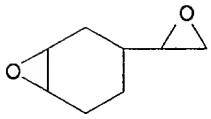

CM 2

CRN 22915-91-9
CMF C13 H20 O3



CM 3

CRN 106-87-6
CMF C8 H12 O2



RN 84137-04-2 HCAPLUS
CN Lowicryl K 4M (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 122157-68-0 HCAPLUS
CN JB 4 (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L24 ANSWER 41 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 1990:228807 HCAPLUS
DN 112:228807
TI Water-soluble quinolin-8-ol polymer for liquid-phase separation of elements
AU Geckeler, K. E.; Bayer, E.; Vorob'eva, G. A.; Spivakov, B. Ya.
CS Inst. Org. Chem., Univ. Tuebingen, Tuebingen, D-7400/1, Fed. Rep. Ger.
SO Anal. Chim. Acta (1990), 230(1), 171-4
CODEN: ACACAM; ISSN: 0003-2670
DT Journal
LA English
AB The sepn. of various elements by a water-sol. quinolin-8-ol polymer in conjunction with membrane filtration is demonstrated. The method is based on the retention of inorg. ions by a quinolin-8-ol deriv. of poly(ethylenimine) in a membrane filtration cell and subsequent sepn. of low-mol.-wt. species from the polymer **complex** formed. Poly(ethylenimine) and the polymeric quinolin-8-ol deriv. can retain metal ions in aq. soln. The polymer, however, exhibits a much higher retention capability in acidic soln. with respect to more highly charged metal ions, such as Zr, Nb, W, Bi, and can therefore be used for sepg. them from ions that do not from stable quinolinolates. At higher pH, the water-sol. quinolin-8-ol polymer can be applied to the sepn. and preconcn. of many metal ions. Owing to the **hydrophilic** nature of the polymer **complex** in soln., the presepd. elements remain in the aq. phase, which is convenient for their subsequent **detn.** by at. absorption spectrometry, inductively coupled plasma-at. emission spectrometry, etc.
IT **9002-98-6**, Poly(ethylenimine) **9002-98-6D**, Poly(ethylenimine), reaction products with 5-chloromethyl-8-hydroxyquinoline
RL: ANST (Analytical study)
(in liq.-phase sepn. of metal cations with membrane filtration)
RN 9002-98-6 HCAPLUS
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4
CMF C2 H5 N

RN 9002-98-6 HCAPLUS
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

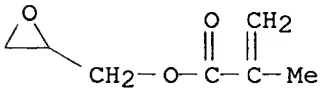
CRN 151-56-4

CMF C2 H5 N

L24 ANSWER 42 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 1990:15640 HCAPLUS
DN 112:15640
TI **Complexing** sorbents based on glycidyl methacrylate gels with imidazole groups for preconcentration of trace elements
AU Shcherbinina, N. I.; Ishmiyarova, G. R.; Kahovec, J.; Svec, F.; Bol'shakova, L. I.; Myasoedova, G. V.; Savvin, S. B.
CS V. I. Vernadskii Inst. Geochem. Anal. Chem., Moscow, Czech.
SO Zh. Anal. Khim. (1989), 44(4), 615-19
CODEN: ZAKHA8; ISSN: 0044-4502
DT Journal
LA Russian
AB Sorbents were synthesized by treating macroporous **hydrophilic** copolymers of glycidyl methacrylate and ethylene dimethacrylate with imidazole and benzimidazole, and their acid-base and sorption characteristics with respect to **Cu**(II), **Zn**(II), **Ni**(II), **Au**(III), and **Pd**(II) were **detd**. The kinetic properties and distribution coeffs. of the sorbents exceeded those of the vinylbenzimidazole-based sorbent (Shvoeva, O.P., et al., 1986). The metals can be extd. quant. from solns. of .ltoreq.230 g L-1 salt concns. The sorbent contg. imidazole groups, having better sorption characteristics, was used for preconcg. **Cu**, **Ni**, **Zn**, **Co**, and **Pb** from brines contg. 60-109 g L-1 salts. The preconcd. metals in 2M HCl solns. were **detd**. by inductively coupled-plasma at.-emission spectroscopy with the relative std. deviations varying from 0.08 to 0.21 (n = 3, P = 0.95).
IT **31743-77-8DP**, Ethylene dimethacrylate-glycidyl methacrylate copolymer, reaction products with benzimidazole and imidazole
RL: PREP (Preparation)
(prepn. and sorption properties and use of, for preconcn. in trace metal **detn**. in brines)
RN 31743-77-8 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with oxiranylmethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

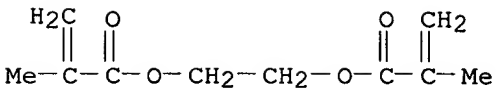
CM 1

CRN 106-91-2
CMF C7 H10 O3



CM 2

CRN 97-90-5
CMF C10 H14 O4



L24 ANSWER 43 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 1989:403645 HCAPLUS
DN 111:3645
TI Comparison of LR White resin, Lowicryl K4M and Epon postembedding procedures for immunogold staining of actin in the testis
AU Kann, M. L.; Fouquet, J. P.
CS Lab. Histol., UER Biomed., Paris, F-75270, Fr.
SO Histochemistry (1989), 91(3), 221-6
CODEN: HCMYAL; ISSN: 0301-5564
DT Journal
LA English
AB The efficiency of various postembedding procedures for actin immunogold **detection** was compared using testicular tissue as a model. Whatever the fixative, testes embedded in LR White resin or in Lowicryl K4M showed few differences with regard to ultrastructural preservation and gave similar actin antigenicity preservation. A purified polyclonal antibody (IgG) and a monoclonal antibody (IgM) visualized with **gold** secondary antibody yielded high labeling intensity whereas the IgG-protein-A **gold** assocn. was less efficient. Crude antisera gave a low specific staining/background ratio. Samples of testes, fixed in different conditions, were also embedded in Epon, omitting propylene oxide and lowering polymn. temp. to 40.degree.-50.degree.. This slight modification improved ultrastructural preservation which was better than with **hydrophilic** resins, as well as made possible immunogold **detection** of actin though antigenicity preservation was lesser than with these resins. Thus, the Epon embedded samples actin labeling, using IgG antiactin-**gold** secondary antibody, was similar to that obsd. after **hydrophilic** resin-protein-A **gold** procedures. In addn. to actin labeling of various somatic cells it was confirmed that actin is a consistent component of the subacrosomal space of spermatids during the greater part of spermiogenesis in rat.
IT **30525-89-4**, Paraformaldehyde **84137-04-2**, Lowicryl K4M
RL: ANST (Analytical study)
(in actin **detection** in testis by immunogold staining)
RN 30525-89-4 HCAPLUS
CN Paraformaldehyde (9CI) (CA INDEX NAME)

CM 1

CRN 50-00-0
CMF C H2 O

$H_2C{=}O$

RN 84137-04-2 HCAPLUS
CN Lowicryl K 4M (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L24 ANSWER 44 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 1988:621475 HCAPLUS
DN 109:221475
TI Metal sorption of macroreticular poly(4-vinylpyridine) resins crosslinked with oligo(ethylene glycol dimethacrylates)
AU Sugii, Atsushi; Ogawa, Naotake; Harada, Kumiko; Nishimura, Koichi
CS Fac. Pharm. Sci., Kumamoto Univ., Kumamoto, 862, Japan
SO Anal. Sci. (1988), 4(4), 399-402
CODEN: ANSCEN; ISSN: 0910-6340
DT Journal
LA English
AB Poly(4-vinylpyridine), 4VP, resins crosslinked with oligo(ethylene glycol dimethacrylates) were used for chelating resins. Sorption for some metal ions by **complexation** in acetate buffer (pH 3-6) was investigated mainly by using the 4VP resins crosslinked with **hydrophilic** tetraethylene glycol dimethacrylate (4VP-4EG) and that crosslinked with hydrophobic divinylbenzene (4VP-DVB). The difference in crosslinkers of the 4VP resins strongly affected the sorption behavior, such as the pH profile of the sorption of metal ions and the capacity for **Co** (II), **Ni**(II), and **Cu**(II). 4VP-4EG showed higher metal sorption than 4VP-DVB in acetate buffer, suggesting that **hydrophilicity** of the resin matrix, other than chelating groups, should be taken into account in the design of chelating resins.
IT **9017-40-7**, 4-Vinylpyridine-divinylbenzene copolymer
**75944-35-3 107339-25-3 117646-63-6**
RL: ANST (Analytical study)
(chelating ion-exchanger, for metal sepn.)
RN 9017-40-7 HCAPLUS
CN Pyridine, 4-ethenyl-, polymer with diethenylbenzene (9CI) (CA INDEX NAME)

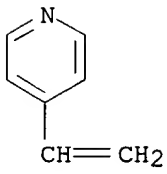
CM 1

CRN 1321-74-0
CMF C10 H10
CCI IDS
CDES 8:ID

2 [ D1— CH═ $CH_2$ ]

CM 2

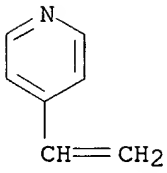
CRN 100-43-6
CMF C7 H7 N



RN 75944-35-3 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with 4-ethenylpyridine (9CI) (CA INDEX NAME)

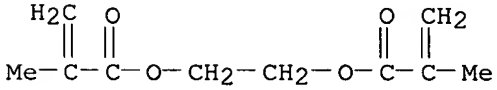
CM 1

CRN 100-43-6
CMF C7 H7 N



CM 2

CRN 97-90-5
CMF C10 H14 O4

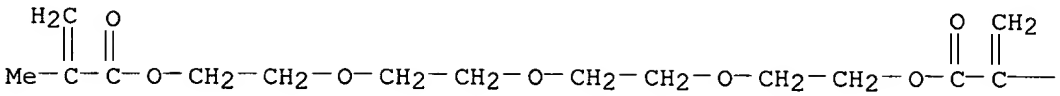


RN 107339-25-3 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, oxybis(2,1-ethanediyloxy-2,1-ethanediyl) ester, polymer with 4-ethenylpyridine (9CI) (CA INDEX NAME)

CM 1

CRN 109-17-1
CMF C16 H26 O7

PAGE 1-A

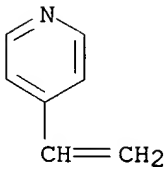


PAGE 1-B

—Me

CM 2

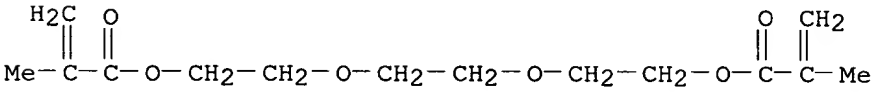
CRN 100-43-6
CMF C7 H7 N



RN 117646-63-6 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediylbis(oxy-2,1-ethanediyl) ester, polymer with 4-ethenylpyridine (9CI) (CA INDEX NAME)

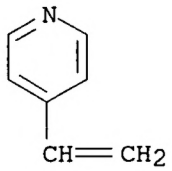
CM 1

CRN 109-16-0
CMF C14 H22 O6



CM 2

CRN 100-43-6
CMF C7 H7 N


N
CH═ CH2

L24 ANSWER 45 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 1988:451293 HCAPLUS
DN 109:51293
TI Preparation and use of polychelating agents for image and spectral enhancement (and spectral shift)
IN Ranney, David F.
PA University of Texas System, USA
SO PCT Int. Appl., 109 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | WO 8702893 | A1 | 19870521 | WO 1986-US2479 | 19861118 |
| | W: AT, AU, BB, BG, BR, CH, DE, DK, FI, GB, HU, JP, KP, KR, LK, LU, MC, MG, MW, NL, NO, RO, SD, SE, SU, US | | | | |
| | RW: AT, BE, CF, CG, CH, CM, DE, FR, GA, GB, IT, LU, ML, MR, NL, SE, SN, TD, TG | | | | |
| | AU 8666215 | A1 | 19870602 | AU 1986-66215 | 19861118 |
| | EP 247156 | A1 | 19871202 | EP 1986-907195 | 19861118 |
| | EP 247156 | B1 | 19930623 | | |
| | R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE | | | | |
| | JP 63501798 | T2 | 19880721 | JP 1986-506116 | 19861118 |
| | JP 07110815 | B4 | 19951129 | | |
| | AT 90879 | E | 19930715 | AT 1986-907195 | 19861118 |
| | CA 1280364 | A1 | 19910219 | CA 1987-526868 | 19870107 |
| | US 5155215 | A | 19921013 | US 1990-613465 | 19901107 |
| | US 5336762 | A | 19940809 | US 1991-642033 | 19910116 |

| | | |
|---|---|---|
| PRAI | US 1985-799757 | 19851118 |
| | EP 1986-907195 | 19861118 |
| | WO 1986-US2479 | 19861118 |
| | US 1987-86692 | 19870807 |

AB Image-enhancing agents comprise biodegradable, water-sol. polymers, synthetic or naturally derived and having repeating **hydrophilic** monomeric units with amino or hydroxyl groups; and chelating agents comprising functional groups bound to an amino, quaternary ammonium, sulfate, carboxyl, hydroxyl, or other reactive group of the monomeric units and having a formation const. for divalent or trivalent metal cations at physiol. temp. and pH of .gtoreq.108. The agent is biodegradable to intermediary metabolites, excretable chelates, oligomers, or monomers of low toxicity. They may further comprise paramagnetic metal ions, radioisotopic metals emitting .gamma. particles, or relatively dense metals for enhancement in magnetic resonance imaging, radioisotope scanning, or ultrasound imaging, resp. The phys. conversion of these agents into microspheres allows further internal directioning of the agents to organs with phagocytic capabilities. Rats bearing hepatomas were NMR-imaged both before and after i.v. injections of Gd:DTPA-dextran microspheres (prepn. described). The microspheres produced a selective enhancement of the tumor (by visual inspection) in relation to surrounding

normal liver and all other organs. Tumor enhancement was maximal in the T1 modes but was also obsd. in the T2 mode. The enhancement became strong at 25 min post-injection and persisted unchanged over the 2.5-h interval of imaging.

IT **9004-54-0D**, Dextran, conjugates with polychelators and metal ions
**9005-49-6D**, Heparin, conjugates with polychelators and metal ions
RL: ANST (Analytical study)
(as image-enhancement agents)
RN 9004-54-0 HCAPLUS
CN Dextran (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 9005-49-6 HCAPLUS
CN Heparin (8CI, 9CI) (CA INDEX NAME)

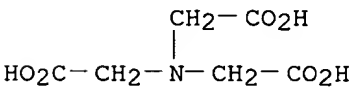
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IT **9004-54-0DP**, Dextran, reaction products with gadolinium-DPTA
**9005-49-6DP**, Heparin, reaction products with gadolinium-DPTA
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, as image-enhancement agents)
RN 9004-54-0 HCAPLUS
CN Dextran (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 9005-49-6 HCAPLUS
CN Heparin (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IT **115403-44-6P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, in prepn. of image-enhancement agents)
RN 115403-44-6 HCAPLUS
CN Glycine, N,N-bis(carboxymethyl)-, polymer with 1,2,3-propanetriol (9CI) (CA INDEX NAME)

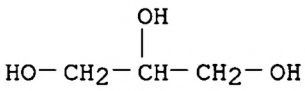
CM 1

CRN 139-13-9
CMF C6 H9 N O6



CM 2

CRN 56-81-5
CMF C3 H8 O3



L24 ANSWER 46 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 1988:434846 HCAPLUS
DN 109:34846
TI Method of preparing integral multilayer **analytical** element containing a spreading action controller
IN Mitsutoshi, Tanaka; Fuminori, Arai; Kaoru, Terashima; Nakatsugu, Yaginuma
PA Fuji Photo Film Co., Ltd., Japan
SO Eur. Pat. Appl., 14 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | EP 254202 | A1 | 19880127 | EP 1987-110240 | 19870715 |
| | EP 254202 | B1 | 19910918 | | |
| | R: DE, GB | | | | |
| | JP 63021553 | A2 | 19880129 | JP 1986-164570 | 19860715 |
| | JP 07013635 | B4 | 19950215 | | |
| | JP 63025556 | A2 | 19880203 | JP 1986-168091 | 19860718 |
| | JP 06019354 | B4 | 19940316 | | |
| | US 4871679 | A | 19891003 | US 1987-73759 | 19870715 |
| | US 4966784 | A | 19901030 | US 1989-339015 | 19890414 |
| PRAI | JP 1986-164570 | 19860715 | | | |
| | JP 1986-168091 | 19860718 | | | |
| | US 1987-73759 | 19870715 | | | |

AB A dry-type integral multilayer **anal**. element, e.g. for **anal**. of a body fluid, comprises a water-impermeable light-transmissive support, a reagent layer contg. a water-sol. indicator, and a porous spreading layer contg. a spreading action controller (SAC). The SAC is applied to the spreading layer as a soln. in an org. solvent which does not dissolve the water-sol. indicator, and the org. solvent is removed by drying. The SAC, which may be a **hydrophilic** polymer and/or a nonionic surfactant, prevents migration of the indicator into the spreading layer, and thus increases the accuracy of measurement. In an **anal**. element for **detn**. of Ca2+, the spreading layer contains an acid for decompg. the Ca compds. in a sample. An **anal**. element for **detn**. of Ca2+ in serum comprised (1) a transparent polyethylene terephthalate (PET) film, (2) a water absorption layer contg. gelatin, nonylphenoxypolyethoxyethanol, and 1,2-bis(vinylsulfonylacetamide)ethane, (3) a reagent layer contg. gelatin, polyoxyethylene nonyl Ph ether (PNPE), 3-(cyclohexylamino)-1-propanesulfonate, o-cresolphthalein **complexone**, and 8-hydroxyquinoline-5-sulfonic acid, and (4) an adhesive layer contg. gelatin, PNPE, and TiO2 particles. A PET tricot fabric cloth was laminated onto the element as the spreading layer; an EtOH soln. of PVP and PNPE (SAC's) was applied to the spreading layer and dried. Replicate photometric **analyses** with multiple **anal**. elements showed a remarkably small dispersion of the measured values.

IT **9002-89-5**, Polyvinyl alcohol **9003-01-4**, Polyacrylic acid **9003-39-8**, Polyvinyl pyrrolidone **25322-68-3D**, esters

RL: ANST (Analytical study)
(as spreading controller, in multilayer **anal**. element)
RN 9002-89-5 HCAPLUS
CN Ethenol, homopolymer (9CI) (CA INDEX NAME)

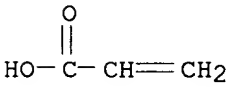
CM 1

CRN 557-75-5
CMF C2 H4 O

RN 9003-01-4 HCAPLUS
CN 2-Propenoic acid, homopolymer (9CI) (CA INDEX NAME)

CM 1

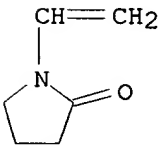
CRN 79-10-7
CMF C3 H4 O2



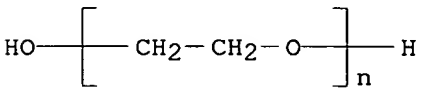
RN 9003-39-8 HCAPLUS
CN 2-Pyrrolidinone, 1-ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 88-12-0
CMF C6 H9 N O



RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



L24 ANSWER 47 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 1988:403251 HCAPLUS
DN 109:3251
TI Methylation of residual carboxyl groups in gel permeation column and its effect on elution and distribution of metals and proteins in blood serum
AU Sunaga, Hiroyuki; Suzuki, Kazuo T.
CS Natl. Inst. Environ. Stud., Yatabe, 305, Japan
SO J. Liq. Chromatogr. (1988), 11(3), 701-11
CODEN: JLCHD8; ISSN: 0148-3919
DT Journal
LA English
AB Residual carboxyl groups in gel permeation column materials ( **hydrophilic** polymer gels) (Asahipak GS-520) were methylated with boron trifluoride methanol **complex** to minimize the interaction of metals between the ligands in substrates and in gel materials. Although **Zn** ions were eluted very slowly as an extremely broad peak on the original column, the metal ions were eluted faster as a lesser broad peak on the methylated column. Cd ions were eluted faster as a relatively sharp peak on the methylated column than the original column. Alkali earth metal ions were eluted also as sharper peaks on the methylated column. **Zn** in rat serum was eluted more with globulins and less with albumin on the methylated column than on the original column. Globulins and albumin in rat and human sera were sepd. more efficiently on the methylated column. These results suggest that methylation of residual carboxyl groups in gel materials decreased the interaction of metals with gel materials and increased hydrophobicity of the gel materials.
IT **97707-90-9**, Asahipak GS-520
RL: PRP (Properties)
(methylation of carboxyl groups in, metal and protein elution response to)
RN 97707-90-9 HCAPLUS
CN Asahipak GS 520 (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

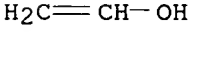
L24 ANSWER 48 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 1988:227430 HCAPLUS
DN 108:227430
TI New chelating sorbents based on fibrous materials filled with **complexing** ion exchangers
AU Myasoedova, G. V.; Antokol'skaya, I. I.; Shvoeva, O. P.; Mezhirov, M. S.; Savin, S. B.
CS V. I. Vernadskii Inst. Geochem. Anal. Chem., Moscow, USSR
SO Solvent Extr. Ion Exch. (1988), 6(2), 301-21
CODEN: SEIEDB; ISSN: 0736-6299
DT Journal
LA English
AB The properties and **anal**. applications of a new type of selective sorbents - fibrous materials filled with **complexing** ion exchangers - POLYORGS XI-N and Polyarsenazo-n - were considered. This type of sorbents consists of porous **hydrophilic** fibers contg. fine-grained polymeric sorbents (fillers). The sorptive and kinetic properties of these materials were measured. These sorbents are sufficiently selective and exhibit high sorptive capacity and fast kinetics. The sorbent POLYORGS XI-N was used for preconcn. of noble metals from natural and industrial materials. The **anal**. **detns**. were performed by at. absorption spectrometry of a suspension of the filler in N,N-dimethylformamide. The sorbent Polyarsenazo-n is used for preconcn. of U and rare earths prior to their **detn**. in waters.
IT **113355-81-0**, Polyarsenazo-n
RL: PRP (Properties)
(chelating sorbent of, fibrous, preconcn. of uranium and lanthanides by
sorption on, before **detn**. in water)
RN 113355-81-0 HCAPLUS
CN Polyarsenazo N (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

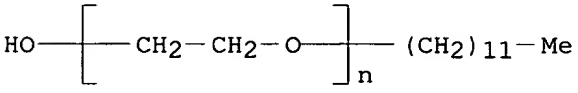
L24 ANSWER 49 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 1988:146524 HCAPLUS
DN 108:146524
TI Application of xanthene derivatives for **analytical** chemistry. LXVII. Approach to **analytical** chemistry of saponins: application of saponin as a surfactant having **complex**-forming ability to spectrophotometry of **iron** ion
AU Fujita, Yoshikazu; Mori, Itsuo; Fujita, Kinuko; Nakahashi, Yoshihiro
CS Osaka Univ. Pharm Sci., Matsubara, 580, Japan
SO Chem. Pharm. Bull. (1988), 36(1), 254-62
CODEN: CPBTAL; ISSN: 0009-2363
DT Journal
LA English
AB An attempt was made to apply saponin to **anal**. spectrophotometry; color reactions between o-hydroxyhydroquinonephthalein (Qnph) and several metal ions in the presence of surfactants including saponin were studied in weakly basic media. A simple, sensitive, and selective spectrophotometric **detn**. of **Fe** (Fe3+ + Fe2+) was developed with Qnph and saponin. The apparent molar absorptivity for **Fe** was 1.18 .times. 105 L mol-1 cm-1 at 565 nm. It was suggested that saponin is a surfactant having **complex**-forming ability with metal ions, and **Fe** combined with **hydrophilic** sugar groups in the saponin. The proposed method was applied to the assay of **Fe** in rain water, tap water, human urine, and calf serum, and the **anal**. results were in good agreement with those obtained by at. absorption spectrometry, inductively coupled plasma at. emission spectroscopy, and spectrophotometry with bathophenanthroline.
IT **9002-89-5**, Polyvinyl alcohol **9002-92-0**, Brij 35 **9002-93-1**, Triton X 100 **9003-39-8**, Polyvinyl pyrrolidone **9004-54-0**, Dextran 70, properties **25322-68-3**, PEG 400
RL: ANST (Analytical study)
(color reaction between **iron** and hydroxyhydroquinonephthalein response to)
RN 9002-89-5 HCAPLUS
CN Ethenol, homopolymer (9CI) (CA INDEX NAME)

CM 1

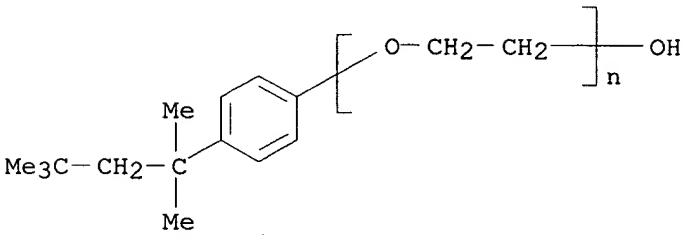
CRN 557-75-5
CMF C2 H4 O



RN 9002-92-0 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), .alpha.-dodecyl-.omega.-hydroxy- (9CI) (CA INDEX NAME)



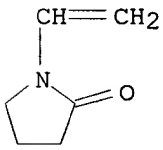
RN 9002-93-1 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), .alpha.-[4-(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy- (9CI) (CA INDEX NAME)



RN 9003-39-8 HCAPLUS
CN 2-Pyrrolidinone, 1-ethenyl-, homopolymer (9CI) (CA INDEX NAME)

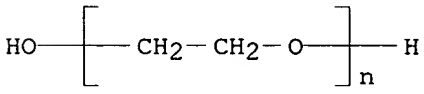
CM 1

CRN 88-12-0
CMF C6 H9 N O



RN 9004-54-0 HCAPLUS
CN Dextran (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 25322-68-3 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



IT **9005-64-5**, Tween 20
RL: ANST (Analytical study)
(color reactions between hydroxyhydroquinonephthalein and metal ions response to)
RN 9005-64-5 HCAPLUS
CN Sorbitan, monododecanoate, poly(oxy-1,2-ethanediyl) derivs. (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L24 ANSWER 50 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 1988:106592 HCAPLUS
DN 108:106592
TI High-performance immobilized metal ion affinity chromatography of peptides: **analytical** separation of biologically active synthetic peptides
AU Nakagawa, Yasuo; Yip, Tai Tung; Belew, Makonnen; Porath, Jerker
CS Inst. Biochem., Univ. Uppsala, Uppsala, S-751 23, Swed.
SO Anal. Biochem. (1988), 168(1-4), 75-81
CODEN: ANBCA2; ISSN: 0003-2697
DT Journal
LA English
AB The sepn. of >30 biol. active synthetic peptides and their analogs on a high-performance immobilized metal ion affinity chromatog. column is described. The metal-chelating gel (TSK gel chelate-5PW) contains iminodiacetic acid (IDA) covalently coupled to a **hydrophilic,** resin-based matrix with a bead diam. of 10 .mu.m. The retention of the peptides on **Cu**(II, **Ni**(II), and **Zn**(II) ions immobilized on the chelating gel showed that some of them can be sepd. by isocratic elution, whereas the majority of them are retained and are sepd. into distinct fractions by elution with a linear imidazole gradient or with a continuously decreasing pH gradient. Of the 3 immobilized metal ions investigated here, the IDA-**Cu**(II) chelate column gave the best resoln. irresp. of the type of gradient used. This is amply illustrated by the resoln. of angiotensins I and II and their 4 synthetic analogs. The results obtained serve as guidelines for the future exploitation of this sepn. method for the efficient fractionation of a wide variety of peptides on an **anal.** or preparative scale.
IT **9034-40-6,** LH-RH **9088-01-1**
RL: ANST (Analytical study)
(sepn. of, by high-performance immobilized metal ion affinity chromatog.)
RN 9034-40-6 HCAPLUS
CN Luteinizing hormone-releasing factor (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 9088-01-1 HCAPLUS
CN Angiotensin II, 1-(N-methylglycine)-8-L-isoleucine- (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L24 ANSWER 51 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 1985:434515 HCAPLUS
DN 103:34515
TI Overcoat compositions and ion-selective electrodes for ionic **analyte determinations**
IN Detwiler, Richard L.; Schlegel, Brooke P.; Kissel, Thomas R.
PA Eastman Kodak Co., USA
SO U.S., 4 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | US 4505801 | A | 19850319 | US 1984-569695 | 19840110 |
| | CA 1233298 | A1 | 19880223 | CA 1984-463097 | 19840913 |
| | EP 149246 | A2 | 19850724 | EP 1984-116417 | 19841228 |
| | EP 149246 | A3 | 19870513 | | |
| | EP 149246 | B1 | 19900228 | | |
| | R: CH, DE, FR, GB, IT, LI, SE | | | | |
| | JP 60220854 | A2 | 19851105 | JP 1985-984 | 19850109 |
| | JP 06008798 | B4 | 19940202 | | |
| PRAI | US 1984-569695 | | 19840110 | | |

AB An overcoat compn. is described for use in ion-selective electrodes. It comprises: (a) a discontinuous liq. phase comprising an oleophilic solvent dispersed within a continuous phase comprising a **hydrophilic** binder; (b) a **complexing** agent useful for extg. oleophilic anions; (c) a buffer which provides a pH in the range of from about 7.5 to about 9.5 under conditions of use; and (d) a nucleating agent. This overcoat compn. is particularly useful in ion-selective electrodes for **detn**. of CO2 in human blood. For example, an ion-selective electrode for CO2 **detn**. has an overcoat layer contg. poly(2-hydroxyethyl acrylate-**co**-acrylic acid, Na salt-**co**-N-isopropylacrylamide), trioctylpropylammonium chloride, diisodecyl phthalate, Triton X 305, and Ca silicate.

IT **51569-39-2**
RL: ANST (Analytical study)
(ion-selective electrode electrolyte layer contg., for carbon dioxide **detn**. in human body fluids)

RN 51569-39-2 HCAPLUS
CN Oxiranemethanol, homopolymer, nonylphenyl ether (9CI) (CA INDEX NAME)

CM 1

CRN 25154-52-3
CMF C15 H24 O
CCI IDS
CDES 8:ID

D1—OH

D1—$(CH_2)_8$—Me

CM 2

CRN 25722-70-7
CMF (C3 H6 O2)x
CCI PMS

CM 3

CRN 556-52-5
CMF C3 H6 O2

$CH_2$—OH

IT **9003-22-9 25086-48-0**
RL: ANST (Analytical study)
(ion-selective electrode membrane contg., for carbon dioxide **detn.** in human body fluids)
RN 9003-22-9 HCAPLUS
CN Acetic acid ethenyl ester, polymer with chloroethene (9CI) (CA INDEX NAME)

CM 1

CRN 108-05-4
CMF C4 H6 O2

AcO—CH═$CH_2$

CM 2

CRN 75-01-4
CMF C2 H3 Cl

$H_2C{=}CH{-}Cl$

RN 25086-48-0 HCAPLUS
CN Acetic acid ethenyl ester, polymer with chloroethene and ethenol (9CI) (CA INDEX NAME)

CM 1

CRN 557-75-5
CMF C2 H4 O

$H_2C{=}CH{-}OH$

CM 2

CRN 108-05-4
CMF C4 H6 O2

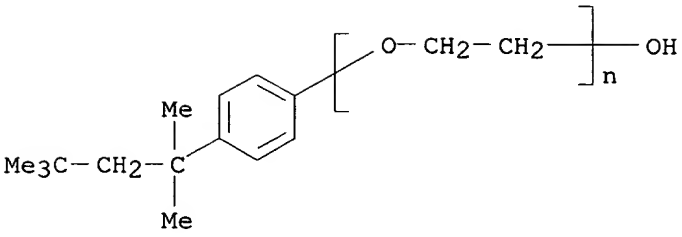
$AcO{-}CH{=}CH_2$

CM 3

CRN 75-01-4
CMF C2 H3 Cl

$H_2C{=}CH{-}Cl$

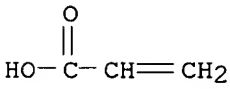
IT **9002-93-1 78733-36-5**
RL: ANST (Analytical study)
(overcoat compn. of ion-selective electrode contg., for carbon dioxide **detn.** in human body fluids)
RN 9002-93-1 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), .alpha.-[4-(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy- (9CI) (CA INDEX NAME)



RN 78733-36-5 HCAPLUS
CN 2-Propenoic acid, 2-hydroxyethyl ester, polymer with N-(1-methylethyl)-2-propenamide and sodium 2-propenoate (9CI) (CA INDEX NAME)

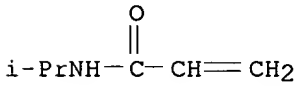
CM 1

CRN 7446-81-3
CMF C3 H4 O2 . Na



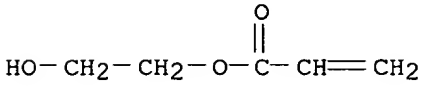
CM 2

CRN 2210-25-5
CMF C6 H11 N O



CM 3

CRN 818-61-1
CMF C5 H8 O3



L24 ANSWER 52 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 1983:463939 HCAPLUS
DN 99:63939
TI Characterization of the adducts produced in DNA by cis-diamminedichloroplatinum(II) and cis-dichloro(ethylenediamine) **platinum**(II)
AU Eastman, Alan
CS Coll. Med., Univ. Vermont, Burlington, VT, 05405, USA
SO Biochemistry (1983), 22(16), 3927-33
CODEN: BICHAW; ISSN: 0006-2960
DT Journal
LA English
AB 3H-labeled cis-dichloro(ethylenediamine)**platinum**(II) (cis-DEP), an analog of the antitumor cis-diamminedichloroplatinum (II) (cis-DDP) was incubated with DNA, defined nucleic acid heteropolymers, and dinucleoside monophosphates. The products were enzymically digested to deoxyribonucleosides or oligonucleotides and sepd. by high-pressure liq. chromatog. The identity of the adducts was confirmed after removal of the drug with 1 M thiourea and **anal**. of the constituent nucleotides. At low levels of modification of DNA, >50% of the lesions were attributed to an intrastrand crosslink between 2 neighboring guanines; enzymic removal of the phosphate between the 2 nucleosides being inhibited by the **complex**. At higher levels of modification, these sites became satd., and pronounced reaction occurred at several other sites. One of these represented an intrastrand crosslink between a neighboring adenine and guanine. Reaction was also demonstrated between 2 guanines sepd. by a 3rd base, the latter being removed during digestion. This was a relatively minor adduct. More frequent was an intrastrand crosslink between adenine and guanine sepd. by a 3rd base. In this case, the 3rd base was retained during digestion. These trinucleotides were shown to contain either adenine, cytosine, guanine, or thymine as their middle base. A specific orientation in the DNA was also obsd. with adenine always at the 5' terminus. An addnl., more **hydrophilic** adduct was identified by denaturation studies as an interstrand crosslink, but it represented a max. of 1% of the total platination. A small proportion of monofunctional adducts, predominantly deoxyguanosine dependent, were also detected. These reacted with protein during digestion and chromatographed as the protein-**Pt**-nucleoside **complex**. These monofunctional adducts arose preferentially during short incubation of drug and DNA, but the majority of adducts appeared to arise by direct bifunctional attack. At high levels of DNA modification, it was also possible to characterize the interaction of cis-DDP with DNA as the adducts were detectable by absorbance. Adducts were obtained at identical sites in DNA with both cis-DDP and cis-DEP.
IT **24939-09-1 25512-84-9 26966-61-0 36786-90-0 55684-99-6**
RL: PRP (Properties)
(characterization of, as reaction product of **platinum** compds.

and DNA)
RN 24939-09-1 HCAPLUS
CN 5'-Adenylic acid, 2'-deoxy-, homopolymer, complex with 5'-thymidylic acid homopolymer (1:1) (9CI) (CA INDEX NAME)

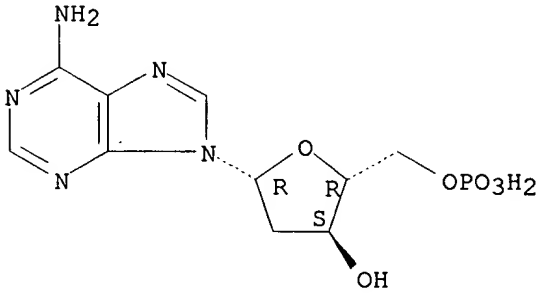
CM 1

CRN 25191-20-2
CMF (C10 H14 N5 O6 P)x
CCI PMS

CM 2

CRN 653-63-4
CMF C10 H14 N5 O6 P

Absolute stereochemistry. Rotation (+).



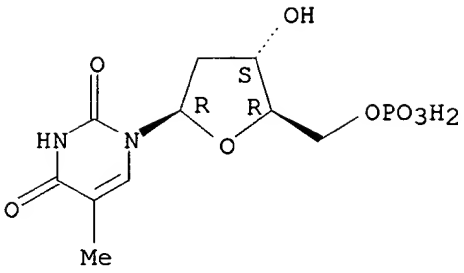

CM 3

CRN 25086-81-1
CMF (C10 H15 N2 O8 P)x
CCI PMS

CM 4

CRN 365-07-1
CMF C10 H15 N2 O8 P
CDES 5:B-D-ERYTHRO

Absolute stereochemistry.



RN 25512-84-9 HCAPLUS
CN 5'-Guanylic acid, 2'-deoxy-, homopolymer, complex with 2'-deoxy-5'-cytidylic acid homopolymer (1:1) (9CI) (CA INDEX NAME)

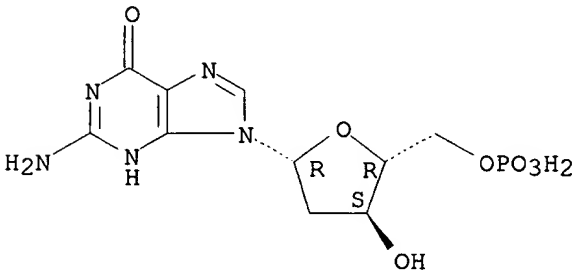
CM 1

CRN 25656-92-2
CMF (C10 H14 N5 O7 P)x
CCI PMS

CM 2

CRN 902-04-5
CMF C10 H14 N5 O7 P
CDES 5:B-D-ERYTHRO

Absolute stereochemistry.



CM 3

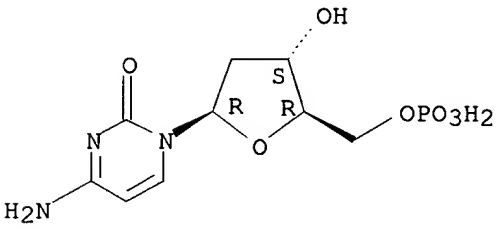
CRN 25609-92-1
CMF (C9 H14 N3 O7 P)x
CCI PMS

CM 4

CRN 1032-65-1
CMF C9 H14 N3 O7 P

CDES 5:B-D-ERYTHRO

Absolute stereochemistry.

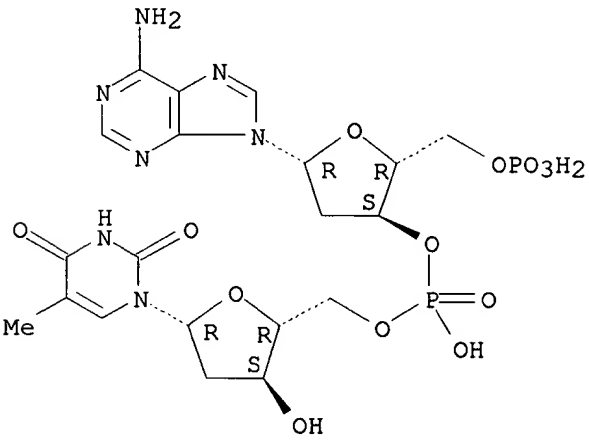


RN 26966-61-0 HCAPLUS
CN Thymidine, 2'-deoxy-5'-O-phosphonoadenylyl-(3'.fwdarw.5')-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 2147-15-1
CMF C20 H27 N7 O13 P2
CDES 5:B-D-ERYTHRO,B-D-ERYTHRO

Absolute stereochemistry.

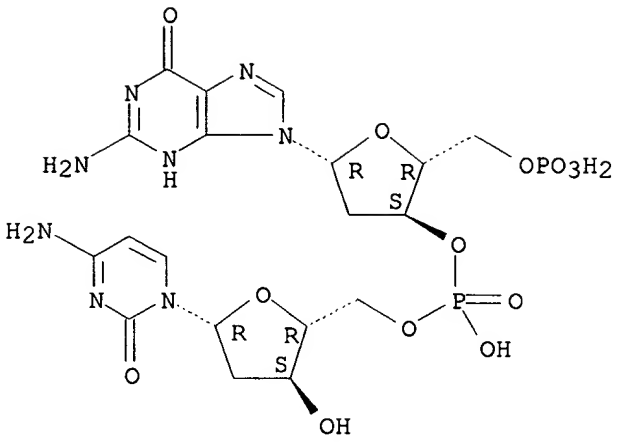


RN 36786-90-0 HCAPLUS
CN Cytidine, 2'-deoxy-5'-O-phosphonoguanylyl-(3'.fwdarw.5')-2'-deoxy-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 2402-35-9
CMF C19 H26 N8 O13 P2
CDES 5:B-D-ERYTHRO,B-D-ERYTHRO

Absolute stereochemistry.



RN 55684-99-6 HCAPLUS
CN Thymidine, 2'-deoxy-5'-O-phosphonoguanylyl-(3'.fwdarw.5')-, homopolymer, complex with 2'-deoxy-5'-O-phosphonoadenylyl-(3'.fwdarw.5')-2'-deoxycytidine homopolymer (1:1) (9CI) (CA INDEX NAME)

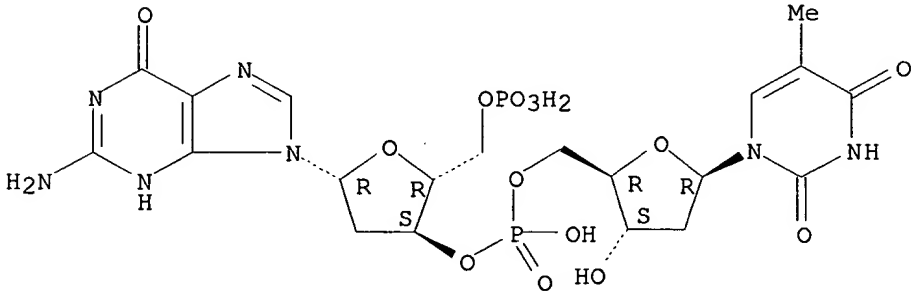
CM 1

CRN 55684-98-5
CMF (C20 H27 N7 O14 P2)x
CCI PMS

CM 2

CRN 38665-20-2
CMF C20 H27 N7 O14 P2
CDES 5:B-D-ERYTHRO,B-D-ERYTHRO

Absolute stereochemistry.



CM 3

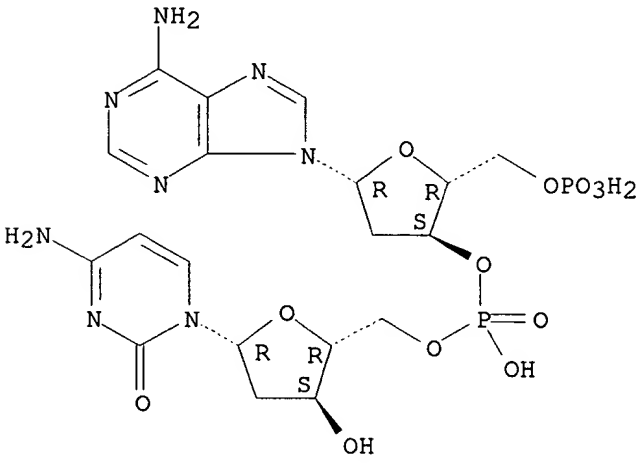
CRN 49718-21-0

CMF (C19 H26 N8 O12 P2)x
CCI PMS

CM 4

CRN 38976-21-5
CMF C19 H26 N8 O12 P2
CDES 5:B-D-ERYTHRO,B-D-ERYTHRO

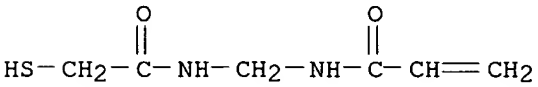
Absolute stereochemistry.



L24 ANSWER 53 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 1981:525436 HCAPLUS
DN 95:125436
TI Metal ion extraction with a thiol **hydrophilic** resin
AU Deratani, Andre; Sebille, Bernard
CS Lab. Physicochim. Biopolym., Univ. Paris-Val Marne, Creteil, 94010, Fr.
SO Anal. Chem. (1981), 53(12), 1742-6
CODEN: ANCHAM; ISSN: 0003-2700
DT Journal
LA English
AB The application of 30% N,N'-methylenebis(acrylamide) cross-linked poly[N-((acryloylamino)methyl)mercaptoacetamide] resin for the concn. of metal ions from aq. solns. was investigated. A flow injection **anal**. method with a color forming reagent was developed, allowing fast cation assays. The pH dependence of the metal extn. for Na, Ca, **Mn**(II), **Fe**(II), **Co**(II), **Ni**(II), **Cu**(II), **Zn**, Ag(I), Cd, Hg(II), **Pb**(II), and UO22+ was studied. Heavy metals and **Cu**(II) exhibit a high affinity toward the thiol functions of the resin (half extn. pH <2), with fast fixation kinetics owing to the **hydrophilic** matrix. The max. resin capacity depends on the metal ion, owing to the formation of ML2 or/and MLL' **complexes** involving thiol functions and anion ligands. The resin selectivity **detd**. at pH 5.5 is, in increasing order, **Zn**, Cd, **Pb**(II), **Cu**(II), and Hg(II).
IT **78260-24-9**
RL: ANST (Analytical study)
(as chelating resin, for sepn. of metal ions)
RN 78260-24-9 HCAPLUS
CN 2-Propenamide, N-[[(mercaptoacetyl)amino]methyl]-, polymer with N,N'-methylenebis[2-propenamide] (9CI) (CA INDEX NAME)

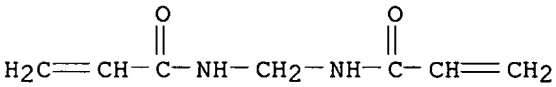
CM 1

CRN 78260-23-8
CMF C6 H10 N2 O2 S



CM 2

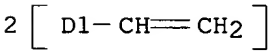
CRN 110-26-9
CMF C7 H10 N2 O2



L24 ANSWER 54 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 1981:170388 HCAPLUS
DN 94:170388
TI Preparation of polyfunctional and asymmetric adsorbents for chromatography. Application to the purification of cephalosporin C
AU Sacco, Daniel; Dellacherie, Edith
CS Lab. Chim. Phys. Macromol., CNRS, Nancy, 54042, Fr.
SO Makromol. Chem. (1981), 182(3), 763-71
CODEN: MACEAK; ISSN: 0025-116X
DT Journal
LA French
AB Some asym. and polyfunctional stationary phases were prepd. by attachment of the .epsilon.-amino group of L-lysine-**Cu complex** to crosslinked polystyrene or agarose, substituted or not by **hydrophilic** spacer arms. After **Cu** elimination, the sorbents exhibit 3 functions, 1 of a carboxylic acid and 1 of an .alpha.-primary amine, and moreover 1 of a secondary amine located at a variable distance far from the asym. C, but near the backbone of polymer. These sorbents were tested in the chromatog. extn. of cephalosporin C from an aq. mixt. contg. several .alpha.-amino acids. They exhibit an affinity higher for the antibiotic than for the amino acids and even for the dicarboxylic amino acids.
IT **9003-70-7**
RL: RCT (Reactant)
(chloromethylation of)
RN 9003-70-7 HCAPLUS
CN Benzene, diethenyl-, polymer with ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 1321-74-0
CMF C10 H10
CCI IDS
CDES 8:ID



CM 2

CRN 100-42-5
CMF C8 H8

$H_2C{=}CH{-}Ph$

IT **9003-70-7DP**, chloromethylated, reaction products with amino acids
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and reaction of, with di-Me sulfide)
RN 9003-70-7 HCAPLUS
CN Benzene, diethenyl-, polymer with ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 1321-74-0
CMF C10 H10
CCI IDS
CDES 8:ID

$2\left[\ D1{-}CH{=}CH_2\ \right]$

CM 2

CRN 100-42-5
CMF C8 H8

$H_2C{=}CH{-}Ph$

L24 ANSWER 55 OF 55 HCAPLUS COPYRIGHT 2001 ACS
AN 1978:539978 HCAPLUS
DN 89:139978
TI Ligand-exchange chromatography of amino acids on **copper**-loaded chitosan
AU Muzzarelli, Riccardo A. A.; Tanfani, Fabio; Muzzarelli, Maria G.; Scarpini, Gianfranco; Rocchetti, Roberto
CS Fac. Med., Univ. Ancona, Ancona, Italy
SO Sep. Sci. Technol. (1978), 13(10), 869-79
CODEN: SSTEDS; ISSN: 0149-6395
DT Journal
LA English
AB Amino acids are retained on the **Cu** form and on the amminecopper form of chitosan, esp. aspartic acid, glutamic acid, tryptophan, and cysteine. The best conditions for collection and for elution are in phosphate buffers at pH 7 and 12, resp. No leakage of **Cu** occurs; the amino acids are recovered as **Cu complexes** with a **Cu**/amino acid ratio of 1:2. Several advantages of chitosan over the resin Chelex are pointed out; namely, the absence of swelling, great **Cu** capacity, **hydrophilicity**, and porous structure.
IT **9012-76-4**
RL: ANST (Analytical study)
(**copper**-loaded, in liq. chromatog. of amino acids)
RN 9012-76-4 HCAPLUS
CN Chitosan (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***